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Surface Area
MicroActive TriStar II 3020 (Page 1)
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA MBHELE\MBHELE

Started: 2022/09/27 Analysis at N2
Completed 2022/09/28 Analysis at 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mass 0.2805 g Ambient pressure 11.2684 cmHg
Analysis pressure 34.6337 cmHg Port volume 0.0298 cm³
Equilibration 10 s Low pressure None
Sample density 1.000 g/cm³ Automatic No

Summary Report

Surface Area
Single point 14.6250 m²/g
BET Surface 15.0259 m²/g
Langmuir 34.3800 m²/g

Surface Area
MicroActive TriStar II 3020 (Page 1)
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA MBHELE\MBHELE

Started: 2022/09/27 Analysis at N2
Completed 2022/09/28 Analysis at 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mass 0.2805 g Ambient pressure 11.2684 cmHg Measure
Analysis pressure 34.6337 cmHg Port volume 0.0298 cm³
Equilibration 10 s Low pressure None
Sample density 1.000 g/cm³ Automatic No

Isotherm Tabular Report

Relative Pressure	Absolute Pressure	Quantity Adsorbed	Elapsed Time	Saturation
			00:38	102,7778
0,010712	1,101393	0,090259	00:42	102,8219
0,030013	3,087562	0,126701	00:45	102,8725
0,065942	6,783974	0,150754	00:47	102,8771
0,079644	8,191495	0,155945	00:50	102,852
0,100099	10,297	0,162508	00:52	102,8674
0,120391	12,37951	0,168094	00:54	102,8277
0,140209	14,41175	0,173156	00:56	102,7875
0,160503	16,50219	0,17816	00:58	102,8153

Surface Area
MicroActive TriStar II 3020 (Page 1)
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
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Started: 2022/09/27 Analysis at N2
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Sample mass 0.2805 g Ambient pressure 11.2684 cmHg Measure
Analysis pressure 34.6337 cmHg Port volume 0.0298 cm³
Equilibration 10 s Low pressure None
Sample density 1.000 g/cm³ Automatic No

Isotherm Linear Plot

MgO-calcined : MgO-calcined
Relative Pressure Quantity Adsorbed

0,010712	0,090259
0,030013	0,126701
0,065942	0,150754
0,079644	0,155945
0,100099	0,162508
0,120391	0,168094
0,140209	0,173156

t-Plot Micrc 2.4345 m ² /g	0,18062	18,56841	0,182843	01:00	102,8039	0,160503	0,17816
	0,20074	20,62504	0,18756	01:02	102,7449	0,18062	0,182843
t-Plot exter 12.5914 m ² /g	0,248881	25,57419	0,19863	01:04	102,7567	0,20074	0,18756
	0,299683	30,79691	0,210903	01:06	102,765	0,248881	0,19863
BJH Adsor	0,349653	35,93358	0,224104	01:08	102,7692	0,299683	0,210903
between 17 11.4708 m ² /g	0,399047	40,99569	0,23822	01:10	102,7341	0,349653	0,224104
	0,448779	46,09962	0,253627	01:13	102,7223	0,399047	0,23822
BJH Desor	0,498458	51,20953	0,27051	01:15	102,736	0,448779	0,253627
between 17 14.6187 m ² /g	0,548694	56,34357	0,288458	01:17	102,6867	0,498458	0,27051
	0,598102	61,42652	0,307519	01:19	102,7023	0,548694	0,288458
	0,648249	66,54892	0,328347	01:22	102,6595	0,598102	0,307519
	0,697468	71,62235	0,35171	01:24	102,689	0,648249	0,328347
Pore Volume	0,747658	76,74193	0,379996	01:26	102,643	0,697468	0,35171
	0,796732	81,79043	0,415856	01:29	102,6574	0,747658	0,379996
Single poin	0,819098	84,08558	0,436057	01:31	102,6563	0,796732	0,415856
less than 1 0.003129 cm ³ /g	0,847994	87,05148	0,467729	01:34	102,6557	0,819098	0,436057
	0,873524	89,59995	0,503046	01:37	102,573	0,847994	0,467729
Single poin	0,896287	92,021	0,551126	01:40	102,6691	0,873524	0,503046
less than 2 0.022786 cm ³ /g	0,919322	94,37358	0,637397	01:45	102,6557	0,896287	0,551126
	0,950029	97,47265	1,066455	01:58	102,5994	0,919322	0,637397
t-Plot micrc 0.000997 cm ³ /g	0,975387	99,93494	2,200973	02:23	102,4567	0,950029	1,066455
	0,984145	100,8235	2,478656	02:26	102,4478	0,975387	2,200973
BJH Adsor	0,984475	100,8219	2,576525	02:28	102,4119	0,984145	2,478656
between 17 0.015783 cm ³ /g	0,988102	101,2585	4,078312	02:34	102,4778	0,984475	2,576525
	0,988299	101,2237	3,937811	02:36	102,4222	0,988102	4,078312
BJH Desor	0,985085	100,9302	3,083026	02:40	102,4584		
between 17 0.023312 cm ³ /g	0,980371	100,4128	2,903181	02:43	102,4232		
	0,953082	97,56239	1,600985	03:10	102,3652		
	0,925585	94,73101	0,86819	03:27	102,3472		
	0,89716	91,85078	0,644136	03:37	102,3795		
Pore Size	0,872128	89,29359	0,547559	03:41	102,3859		
	0,842959	86,25878	0,480752	03:45	102,3285		
Adsorption 8.330 Å	0,813746	83,24699	0,43844	03:48	102,3009		
	0,786301	80,4323	0,409921	03:50	102,292		
Desorption 60.657 Å	0,752145	77,01713	0,383193	03:53	102,3966		
	0,703377	71,99225	0,353266	03:55	102,3522		
BJH Adsor 55.037 Å	0,653034	66,83999	0,328517	03:58	102,3529		

BJH Desor 63.785 Å	0,602631	61,68382	0,307037	04:00	102,3576
	0,552293	56,53348	0,287366	04:02	102,3613
	0,501869	51,3851	0,268915	04:05	102,3875
	0,452014	46,26223	0,251193	04:07	102,347
MP-Method	0,401293	41,08604	0,23504	04:09	102,3841
	0,35137	35,9765	0,220547	04:11	102,3893
	0,301152	30,84253	0,207026	04:13	102,4153
	0,251683	25,75634	0,194641	04:15	102,3363
Cumulative 3.3935 Å a 1.1053 m²/g	0,200793	20,55824	0,18255	04:17	102,3854
	0,140791	14,41876	0,168061	04:20	102,4124
Cumulative 3.3935 Å a 0.000392 cm³/g					
Average pc 3.5456 Å					

Analysis ac N2
Analysis bc 77.350 K
Thermal cc No
Ambient fr 11.2684 cm
Port volum 0.0298 cm³
Low press None
Automatic No

Surface Area
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA M

Started: 2022/09/27 Analysis ac N2
Completed 2022/09/28 Analysis bc 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mass 0.2805 g Ambient pressure 11.2684 cm
Analysis pressure 34.6337 cm Port volume 0.0298 cm³
Equilibration 10 s Low pressure None
Sample density 1.000 g/cm³ Automatic No

BET Report

BET surfac $15.0259 \pm 0.0511 \text{ m}^2/\text{g}$
Slope: $6.45300 \pm 0.02187 \text{ g}/\text{mmol}$
Y-intercept $0.03973 \pm 0.00303 \text{ g}/\text{mmol}$
C: 163.436076
Qm: $0.15402 \text{ mmol}/\text{g}$
Correlation 0.9999655
Molecular $\rho 0.1620 \text{ nm}^2$

MgO-calcined : MgO-c	Relative Pr Quantity A
0,988102	4,078312
0,988299	3,937811
0,985085	3,083026
0,980371	2,903181
0,953082	1,600985
0,925585	0,86819
0,89716	0,644136

Surface Area
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA M

Started: 2022/09/27 Analysis ac N2
Completed 2022/09/28 Analysis bε 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mε 0.2805 g Ambient frε 11.2684 cn
Analysis frε 34.6337 cn Port volum 0.0298 cm³
Equilibratio 10 s Low pressε None
Sample de 1.000 g/cm Automatic ε No

BET Surface Area Plot

MgO-calcined : MgO-c Not Fitted			
Relative Pr 1/[Q(p°/p -		Relative Pr 1/[Q(p°/p -	
0,065942	0,468298	0,010712	0,119962
0,079644	0,554911	0,030013	0,244214
0,100099	0,684484	0,248881	1,668163
0,120391	0,81424	0,299683	2,029012
0,140209	0,941775	0,349653	2,399069
0,160503	1,073136	0,399047	2,787436
0,18062	1,205595	0,448779	3,210039

0,872128	0,547559			0,20074	1,339082	0,498458	3,673978
0,842959	0,480752	Relative Pr	Quantity Ar			0,548694	4,214799
0,813746	0,43844	0,065942	0,150754	0,468298		0,598102	4,839356
0,786301	0,409921	0,079644	0,155945	0,554911		0,648249	5,612729
0,752145	0,383193	0,100099	0,162508	0,684484		0,697468	6,55494
0,703377	0,353266	0,120391	0,168094	0,81424		0,747658	7,797131
0,653034	0,328517	0,140209	0,173156	0,941775		0,796732	9,425386
0,602631	0,307037	0,160503	0,17816	1,073136		0,819098	10,38366
0,552293	0,287366	0,18062	0,182843	1,205595		0,847994	11,9272
0,501869	0,268915	0,20074	0,18756	1,339082		0,873524	13,7296
0,452014	0,251193					0,896287	15,68065
0,401293	0,23504					0,919322	17,87721
0,35137	0,220547					0,950029	17,82779
0,301152	0,207026					0,975387	18,00508
0,251683	0,194641					0,984145	25,04213
0,200793	0,18255					0,984475	24,61082
0,140791	0,168061					0,988102	20,36251

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Surface Area
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA M

Started: 2022/09/27 Analysis ac N2
Completed 2022/09/28 Analysis bε 77.350 K
Report timε 2022/10/04 Thermal cc No
Sample mε 0.2805 g Ambient frε 11.2684 cn
Analysis frε 34.6337 cn Port volum 0.0298 cm³
Equilibratio 10 s Low pressε None
Sample de 1.000 g/cm Automatic ε No

t-Plot Report

Micropore ε 0.000997 cm³/g
Micropore ε 2.4345 m²/g
External su 12.5914 m²/g
Slope: 0.036318 ± 0.000241 mmol/g·Å
Y-intercept 0.028762 ± 0.000980 mmol/g
Correlation 0.999868
Surface arε 1.000
Density cor 0.0015468
Total surfa 15.0259 m²/g
Thickness 3.5000 to 5.0000 Å

Surface Area
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
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File: C:\TriStar II 3020\data\AMANDA M

Started: 2022/09/27 Analysis ac N2
Completed 2022/09/28 Analysis bε 77.350 K
Report timε 2022/10/04 Thermal cc No
Sample mε 0.2805 g Ambient frε 11.2684 cn
Analysis frε 34.6337 cn Port volum 0.0298 cm³
Equilibratio 10 s Low pressε None
Sample de 1.000 g/cm Automatic ε No

t-Plot Harkins and Jura

MgO-calcined : MgO-c Not Fitted
Thickness Quantity Ac Thickness Quantity Ac
3,51417 0,155945 2,642071 0,090259
3,679083 0,162508 2,997842 0,126701
3,830626 0,168094 3,393519 0,150754
3,970931 0,173156 5,010137 0,210903
4,109211 0,17816 5,341339 0,224104
4,242607 0,182843 5,684297 0,23822
4,373626 0,18756 6,051954 0,253627

Surface Area
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\

Started: 2022/09/27 Analysis ac N2
Completed 2022/09/28 Analysis bε 77.350 K
Report timε 2022/10/04 Thermal cc No
Sample mε 0.2805 g Ambient frε 11.2684 cn
Analysis frε 34.6337 cn Port volum 0.0298 cm³
Equilibratio 10 s Low pressε None
Sample de 1.000 g/cm Automatic ε No

BJH Adsorption Pore Distribution

Faas Correction
Halsey
t = 3.54 [-5 / ln(p/p°)]

Width rang 17.000 to 3 000.000 Å
Adsorbate 9.53000 Å
Density cor 0.0015468

Thickness Harkins and Jura	4,682694	0,19863	6,449099	0,27051	Fraction of 0.00
			6,890347	0,288458	
			7,374842	0,307519	
Thickness Curve			7,93378	0,328347	
			8,570167	0,35171	
$t = [13.99 / (0.034 - \log(p/p^\circ))] ^ \wedge$			9,342142	0,379996	Pore Width Average W Increments
			10,26817	0,415856	194.9 - 160 173,9183 0,002105
			10,76763	0,436057	160.1 - 133 144,058 0,001548
t-Plot Report - Data			11,50966	0,467729	133.2 - 111 120,5104 0,001394
			12,28315	0,503046	111.8 - 99. 104,7342 0,000889
Relative Pr Statistical Quantity At Fitted			13,09753	0,551126	99.3 - 79.4 86,95217 0,001589
0,010712 2,642071 0,090259					79.4 - 65.5 70,98399 0,001247
0,030013 2,997842 0,126701					65.5 - 55.5 59,61288 0,00103
0,065942 3,393519 0,150754					55.5 - 47.8 51,0061 0,000918
0,079644 3,51417 0,155945 *					47.8 - 41.7 44,26273 0,000847
0,100099 3,679083 0,162508 *					41.7 - 36.6 38,77713 0,000797
0,120391 3,830626 0,168094 *					36.6 - 32.4 34,21466 0,00075
0,140209 3,970931 0,173156 *					32.4 - 28.8 30,34543 0,000665
0,160503 4,109211 0,17816 *					28.8 - 25.6 26,99292 0,000585
0,18062 4,242607 0,182843 *					25.6 - 22.8 24,00672 0,000515
0,20074 4,373626 0,18756 *					22.8 - 20.1 21,26568 0,000429
0,248881 4,682694 0,19863 *					20.1 - 17.8 18,79451 0,00034
0,299683 5,010137 0,210903					17.8 - 16.8 17,2812 0,000136
0,349653 5,341339 0,224104					
0,399047 5,684297 0,23822					
0,448779 6,051954 0,253627					
0,498458 6,449099 0,27051					
0,548694 6,890347 0,288458					
0,598102 7,374842 0,307519					
0,648249 7,93378 0,328347					
0,697468 8,570167 0,35171					
0,747658 9,342142 0,379996					
0,796732 10,26817 0,415856					
0,819098 10,76763 0,436057					
0,847994 11,50966 0,467729					
0,873524 12,28315 0,503046					
0,896287 13,09753 0,551126					

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Port 1	Surface Area MicroActive TriStar II 3(Page 1 Serial # 727 Unit 1 Port 1	Surface Area MicroActive TriStar II 3(Page 1 Serial # 727 Unit 1 Port 1
AMANDA MBHELE\MgO-calcined	Sample: MgO-calcined Operator: Vuyo Submitter: Amanda File: C:\TriStar II 3020\data\AMANDA M	Sample: MgO-calcined Operator: Vuyo Submitter: Amanda File: C:\TriStar II 3020\data\AMANDA M
N2 77.350 K No 11.2684 cm ³ Measured 0.0298 cm ³ None No	Started: 2022/09/27 Analysis at N2 Completed 2022/09/28 Analysis at 77.350 K Report time 2022/10/04 Thermal cc No Sample mass 0.2805 g Ambient pressure 11.2684 cm Analysis pressure 34.6337 cm Port volume 0.0298 cm ³ Equilibration 10 s Low pressure None Sample density 1.000 g/cm Automatic No	Started: 2022/09/27 Analysis at N2 Completed 2022/09/28 Analysis at 77.350 K Report time 2022/10/04 Thermal cc No Sample mass 0.2805 g Ambient pressure 11.2684 cm Analysis pressure 34.6337 cm Port volume 0.0298 cm ³ Equilibration 10 s Low pressure None Sample density 1.000 g/cm Automatic No
Report	BJH Adsorption Cumulative Pore Volume (La Halsey : Faas Correction	BJH Adsorption dV/dw Pore Volume Halsey : Faas Correction
^ 0.333	MgO-calcined : MgO-calcined Pore Width Pore Volume (cm ³ /g) 160,0946 0,002105 133,2318 0,003652 111,79 0,005046 99,2764 0,005935 79,37776 0,007524 65,4799 0,008772 55,53384 0,009802	MgO-calcined : MgO-calcined Pore Width dV/dw Pore Volume (cm ³ /g·Å) 173,9183 6,04E-05 144,058 5,76E-05 120,5104 6,5E-05 104,7342 7,1E-05 86,95217 7,99E-05 70,98399 8,98E-05 59,61288 0,000104

			47,76478	0,01072		51,0061	0,000118
			41,67782	0,011567		44,26273	0,000139
			36,6067	0,012364		38,77713	0,000157
			32,39579	0,013114		34,21466	0,000178
			28,77435	0,013778		30,34543	0,000184
Cumulative Increment	Cumulative		25,62072	0,014364		26,99292	0,000186
0,002105	0,484065	0,484065	22,76888	0,014879		24,00672	0,000181
0,003652	0,429692	0,913757	20,12628	0,015308		21,26568	0,000162
0,005046	0,462604	1,376361	17,78499	0,015647		18,79451	0,000145
0,005935	0,339488	1,715849	16,83551	0,015783		17,2812	0,000143
0,007524	0,731182	2,447031					
0,008772	0,702966	3,149997					
0,009802	0,691196	3,841193					
0,01072	0,719915	4,561107					
0,011567	0,76539	5,326497					
0,012364	0,821981	6,148478					
0,013114	0,8768	7,025278					
0,013778	0,876297	7,901575					
0,014364	0,867508	8,769083					
0,014879	0,858016	9,627099					
0,015308	0,806576	10,43367					
0,015647	0,722636	11,15631					
0,015783	0,314526	11,47084					

Surface Area
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA I

Started: 2022/09/27 Analysis ac N2
Completed 2022/09/28 Analysis bε 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mε 0.2805 g Ambient frε 11.2684 cm
Analysis frε 34.6337 cm Port volum 0.0298 cm³
Equilibratio 10 s Low pressε None
Sample de 1.000 g/cm Automatic ε No

BJH Adsorption dV/dlog(w) Pore Volume
Halsey : Faas Correction

MgO-calcined : MgO-calcined
Pore Width dV/dlog(w) Pore Volume (cm³/g)
173,9183 0,024617
144,058 0,0194
120,5104 0,018289
104,7342 0,017241
86,95217 0,016361
70,98399 0,014924
59,61288 0,014397

Surface Area
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
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Started: 2022/09/27 Analysis ac N2
Completed 2022/09/28 Analysis bε 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mε 0.2805 g Ambient frε 11.2684 cm
Analysis frε 34.6337 cm Port volum 0.0298 cm³
Equilibratio 10 s Low pressε None
Sample de 1.000 g/cm Automatic ε No

BJH Adsorption Cumulative Pore Area (Large
Halsey : Faas Correction

MgO-calcined : MgO-calcined
Pore Width Pore Area (m²/g)
160,0946 0,484065
133,2318 0,913757
111,79 1,376361
99,2764 1,715849
79,37776 2,447031
65,4799 3,149997
55,53384 3,841193

Surface Area
MicroActive TriStar II 30
Serial # 727

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar I

Started: 2022/09/27
Completed 2022/09/28
Report time 2022/10/04
Sample mε 0.2805 g
Analysis frε 34.6337 cm
Equilibratio 10 s
Sample de 1.000 g/cm

BJH Adsorption dA/dw
Halsey : Faas Correcti

MgO-calcined : MgO-c
Pore Width dA/dw Pore
173,9183 0,013897
144,058 0,015996
120,5104 0,021575
104,7342 0,027129
86,95217 0,036745
70,98399 0,050581
59,61288 0,069494

51,0061	0,014026
44,26273	0,014306
38,77713	0,014143
34,21466	0,014131
30,34543	0,012913
26,99292	0,011612
24,00672	0,010048
21,26568	0,008003
18,79451	0,006322
17,2812	0,005703

47,76478	4,561107
41,67782	5,326497
36,6067	6,148478
32,39579	7,025278
28,77435	7,901575
25,62072	8,769083
22,76888	9,627099
20,12628	10,43367
17,78499	11,15631
16,83551	11,47084

51,0061	0,092664
44,26273	0,125743
38,77713	0,16209
34,21466	0,208221
30,34543	0,241974
26,99292	0,275083
24,00672	0,300864
21,26568	0,30522
18,79451	0,308649
17,2812	0,331261

Page 1
7 Unit 1 Port 1

ied

I 3020\data\AMANDA M

Analysis at N2
Analysis at 77.350 K
Thermal cc No
Ambient fr 11.2684 cm
Port volum 0.0298 cm³
Low press None
Automatic No

Pore Area
on

alcined
Area (m²/g·Å)

Surface Area
MicroActive TriStar II 3020 (Page 1)
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA M

Started: 2022/09/27 Analysis at N2
Completed 2022/09/28 Analysis at 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mass 0.2805 g Ambient fr 11.2684 cm
Analysis fr 34.6337 cm Port volum 0.0298 cm³
Equilibration 10 s Low press None
Sample density 1.000 g/cm Automatic No

BJH Adsorption dA/dlog(w) Pore Area
Halsey : Faas Correction

MgO-calcined : MgO-calcined
Pore Width dA/dlog(w) Pore Area (m²/g)
173,9183 5,661849
144,058 5,386717
120,5104 6,070536
104,7342 6,584712
86,95217 7,526539
70,98399 8,409607
59,61288 9,660277

Surface Area
MicroActive TriStar II 3020 (Page 1)
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA MBHELE\Mg

Started: 2022/09/27 Analysis at N2
Completed 2022/09/28 Analysis at 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mass 0.2805 g Ambient fr 11.2684 cm³ Measured
Analysis fr 34.6337 cm Port volum 0.0298 cm³
Equilibration 10 s Low press None
Sample density 1.000 g/cm Automatic No

BJH Desorption Pore Distribution Report

Faas Correction
Halsey
 $t = 3.54 [-5 / \ln(p/p^0)] ^{0.333}$

Width range 17.000 to 3 000.000 Å
Adsorbate 9.53000 Å
Density correction 0.0015468

51,0061	10,99947
44,26273	12,92828
38,77713	14,5885
34,21466	16,52096
30,34543	17,02105
26,99292	17,20766
24,00672	16,74188
21,26568	15,05416
18,79451	13,45445
17,2812	13,20021

Fraction of 0.00

Pore Width	Average W	Increments	Cumulative Increments
202.0 - 163.8	178,5456	0,004495	0,004495 1,007031
163.8 - 134.3	145,8667	0,00315	0,007645 0,8638
134.3 - 113.9	122,264	0,002001	0,009646 0,654637
113.9 - 99.7	105,7474	0,001348	0,010994 0,510026
99.7 - 86.3	91,88367	0,001265	0,012259 0,550508
86.3 - 72.3	77,84625	0,001437	0,013696 0,73836
72.3 - 61.8	66,05731	0,001206	0,014902 0,7305
61.8 - 53.8	57,11763	0,001077	0,015979 0,753988
53.8 - 47.5	50,14914	0,001025	0,017004 0,817373
47.5 - 42.3	44,52752	0,000999	0,018002 0,897272
42.3 - 38.1	39,89419	0,001005	0,019008 1,007741
38.1 - 34.3	35,93773	0,000912	0,01992 1,015153
34.3 - 31.1	32,51619	0,000809	0,020728 0,994682
31.1 - 28.2	29,49647	0,000738	0,021466 1,000738
28.2 - 25.7	26,7854	0,00064	0,022106 0,955852
25.7 - 23.2	24,2477	0,000572	0,022678 0,943759
23.2 - 20.4	21,51383	0,000633	0,023312 1,17727

	Surface Area MicroActive TriStar II 3(Page 1 Serial # 727 Unit 1 Port 1	Surface Area MicroActive TriStar II 3(Page 1 Serial # 727 Unit 1 Port 1	Surface Area MicroActive
	Sample: MgO-calcined Operator: Vuyo Submitter: Amanda File: C:\TriStar II 3020\data\AMANDA M	Sample: MgO-calcined Operator: Vuyo Submitter: Amanda File: C:\TriStar II 3020\data\AMANDA M	Sample: Operator: Submitter: File:
MgO-calcined	Started: 2022/09/27 Analysis at N2 Completed 2022/09/28 Analysis at 77.350 K Report time 2022/10/04 Thermal cc No Sample mass 0.2805 g Ambient pressure 11.2684 cmHg Analysis pressure 34.6337 cmHg Port volume 0.0298 cm ³ Equilibration 10 s Low pressure None Sample density 1.000 g/cm ³ Automatic 'No	Started: 2022/09/27 Analysis at N2 Completed 2022/09/28 Analysis at 77.350 K Report time 2022/10/04 Thermal cc No Sample mass 0.2805 g Ambient pressure 11.2684 cmHg Analysis pressure 34.6337 cmHg Port volume 0.0298 cm ³ Equilibration 10 s Low pressure None Sample density 1.000 g/cm ³ Automatic 'No	Started: Completed Report time Sample mass Analysis pressure Equilibration Sample density
	BJH Desorption Cumulative Pore Volume (L) Halsey : Faas Correction	BJH Desorption dV/dw Pore Volume Halsey : Faas Correction	BJH Desorption Halsey : Fa
	MgO-calcined : MgO-calcined Pore Width Pore Volume (cm ³ /g)	MgO-calcined : MgO-calcined Pore Width dV/dw Pore Volume (cm ³ /g·Å)	MgO-calcined Pore Width
	163,7559 0,004495	178,5456 0,000118	178,5456
	134,3436 0,007645	145,8667 0,000107	145,8667
	113,9311 0,009646	122,264 9,8E-05	122,264
	99,71053 0,010994	105,7474 9,48E-05	105,7474
	86,28195 0,012259	91,88367 9,42E-05	91,88367
	72,28343 0,013696	77,84625 0,000103	77,84625
	61,78458 0,014902	66,05731 0,000115	66,05731

	53,79208	0,015979		57,11763	0,000135		57,11763
	47,48047	0,017004		50,14914	0,000162		50,14914
	42,32287	0,018002		44,52752	0,000194		44,52752
	38,05057	0,019008		39,89419	0,000235		39,89419
	34,32784	0,01992		35,93773	0,000245		35,93773
Cumulative	31,12468	0,020728		32,51619	0,000252		32,51619
1,007031	28,24922	0,021466		29,49647	0,000257		29,49647
1,870831	25,66723	0,022106		26,7854	0,000248		26,7854
2,525468	23,18798	0,022678		24,2477	0,000231		24,2477
3,035494	20,37313	0,023312		21,51383	0,000225		21,51383
3,586001							
4,324361							
5,054861							
5,808849							
6,626222							
7,523494							
8,531235							
9,546389							
10,54107							
11,54181							
12,49766							
13,44142							
14,61869							

3a
 TriStar II 3(Page 1
 Serial # 727 Unit 1 Port 1

MgO-calcined
 Vuyo
 Amanda
 C:\TriStar II 3020\data\AMANDA M

2022/09/27 Analysis ac N2
 2022/09/28 Analysis bε 77.350 K
 2022/10/04 Thermal cc No
 0.2805 g Ambient frε 11.2684 cn
 34.6337 cn Port volum 0.0298 cm³
 10 s Low pressε None
 1.000 g/cm Automatic ε No

ption dV/dlog(w) Pore Volume
 ias Correction

ied : MgO-calcined
 dV/dlog(w) Pore Volume (cm³/g)
 0,049355
 0,036636
 0,027956
 0,023287
 0,02013
 0,018691
 0,017699

Surface Area
 MicroActive TriStar II 3(Page 1
 Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
 Operator: Vuyo
 Submitter: Amanda
 File: C:\TriStar II 3020\data\AMANDA M

Started: 2022/09/27 Analysis ac N2
 Completed 2022/09/28 Analysis bε 77.350 K
 Report timε 2022/10/04 Thermal cc No
 Sample mε 0.2805 g Ambient frε 11.2684 cn
 Analysis frε 34.6337 cn Port volum 0.0298 cm³
 Equilibratio 10 s Low pressε None
 Sample de 1.000 g/cm Automatic ε No

BJH Desorption Cumulative Pore Area (Large
 Halsey : Faas Correction

MgO-calcined : MgO-calcined
 Pore Width Pore Area (m²/g)
 163,7559 1,007031
 134,3436 1,870831
 113,9311 2,525468
 99,71053 3,035494
 86,28195 3,586001
 72,28343 4,324361
 61,78458 5,054861

Surface Area
 MicroActive TriStar II 3(Page 1
 Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
 Operator: Vuyo
 Submitter: Amanda
 File: C:\TriStar II 3020\data\AMANDA M

Started: 2022/09/27 Analysis ac N2
 Completed 2022/09/28 Analysis bε 77.350 K
 Report timε 2022/10/04 Thermal cc No
 Sample mε 0.2805 g Ambient frε 11.2684 cn
 Analysis frε 34.6337 cn Port volum 0.0298 cm³
 Equilibratio 10 s Low pressε None
 Sample de 1.000 g/cm Automatic ε No

BJH Desorption dA/dw Pore Area
 Halsey : Faas Correction

MgO-calcined : MgO-calcined
 Pore Width dA/dw Pore Area (m²/g·Å)
 178,5456 0,026357
 145,8667 0,029369
 122,264 0,03207
 105,7474 0,035865
 91,88367 0,040995
 77,84625 0,052746
 66,05731 0,069579

0,017896		53,79208	5,808849		57,11763	0,094337
0,018906		47,48047	6,626222		50,14914	0,129503
0,020001		42,32287	7,523494		44,52752	0,173971
0,021748		38,05057	8,531235		39,89419	0,235878
0,020397		34,32784	9,546389		35,93773	0,272691
0,019007		31,12468	10,54107		32,51619	0,310531
0,017529		28,24922	11,54181		29,49647	0,348027
0,015376		25,66723	12,49766		26,7854	0,3702
0,012968		23,18798	13,44142		24,2477	0,380663
0,011266		20,37313	14,61869		21,51383	0,418236

Surface Area
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA MBHELE\MgO-calcined.SMP

Started: 2022/09/27 Analysis at N2
Completed 2022/09/28 Analysis at 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mass 0.2805 g Ambient pressure 11.2684 cmHg
Analysis pressure 34.6337 cmHg Port volume 0.0298 cm³
Equilibration 10 s Low pressure None
Sample density 1.000 g/cm³ Automatic No

BJH Desorption dA/dlog(w) Pore Area
Halsey : Faas Correction

MgO-calcined : MgO-calcined
Pore Width dA/dlog(w) Pore Area (m²/g)

178,5456	11,05708
145,8667	10,04651
122,264	9,146191
105,7474	8,808568
91,88367	8,76311
77,84625	9,603905
66,05731	10,71765

Surface Area
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: MgO-calcined
Operator: Vuyo
Submitter: Amanda
File: C:\TriStar II 3020\data\AMANDA MBHELE\MgO-calcined.SMP

Started: 2022/09/27 Analysis at N2
Completed 2022/09/28 Analysis at 77.350 K
Report time 2022/10/04 Thermal cc No
Sample mass 0.2805 g Ambient pressure 11.2684 cmHg Measured
Analysis pressure 34.6337 cmHg Port volume 0.0298 cm³
Equilibration 10 s Low pressure None
Sample density 1.000 g/cm³ Automatic No

DFT Pore Size Reports

Primary Data
4070- Unable to load deconvolution model DFT - Argon on Carbon.

57,11763	12,53266
50,14914	15,07976
44,52752	17,96704
39,89419	21,80603
35,93773	22,70291
32,51619	23,3814
29,49647	23,77135
26,7854	22,96204
24,2477	21,39263
21,51383	20,94595

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1)
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2152 g Ambient pressure 11,2516 cm
Analysis pressure 34,5351 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

Summary Report

Surface Area

Single point 63,5098 m²/g

BET Surface 64,5857 m²/g

Langmuir 164,3158 m²/g

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1)
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen...MgO unclac

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2152 g Ambient pressure 11,2516 cm³ Measure
Analysis pressure 34,5351 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm³
Automatic No

Isotherm Tabular Report

Relative Pressure	Absolute Pressure	Quantity Adsorbed	Elapsed Time	Saturation
			00:38	100,5005
0,009716	0,975423	0,429774	00:47	100,3885
0,030179	3,032539	0,578051	00:50	100,4843
0,061455	6,178385	0,649456	00:53	100,5354
0,078804	7,917982	0,675561	00:56	100,4775
0,100034	10,05134	0,703145	00:59	100,4795
0,119945	12,05199	0,7268	01:01	100,4796
0,140052	14,07471	0,749321	01:04	100,496
0,160157	16,09605	0,771327	01:06	100,5015

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1)
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen...

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2152 g Ambient pressure 11,2516 cm
Analysis pressure 34,5351 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

Isotherm Linear Plot

MgO uncalcined : MgO
Relative Pressure Quantity Adsorbed

0,009716	0,429774
0,030179	0,578051
0,061455	0,649456
0,078804	0,675561
0,100034	0,703145
0,119945	0,7268
0,140052	0,749321

t-Plot Micrc 8,0025 m ² /g	0,179691	18,06233	0,792352	01:09	100,5186	0,160157	0,771327
	0,199789	20,07666	0,814045	01:12	100,4891	0,179691	0,792352
t-Plot exter 56,5832 m ² /g	0,246721	24,79605	0,866262	01:15	100,5022	0,199789	0,814045
	0,299161	30,05539	0,92887	01:18	100,4655	0,246721	0,866262
BJH Adsor	0,348088	34,96927	0,993145	01:22	100,461	0,299161	0,92887
between 1769,9459 m ² /g	0,397725	39,95184	1,06516	01:25	100,451	0,348088	0,993145
	0,447598	44,94318	1,144109	01:28	100,4097	0,397725	1,06516
BJH Desor	0,496795	49,89831	1,230024	01:31	100,4404	0,447598	1,144109
between 1773,2557 m ² /g	0,546735	54,89864	1,327213	01:35	100,4119	0,496795	1,230024
	0,595907	59,83906	1,439219	01:39	100,4168	0,546735	1,327213
	0,645109	64,76166	1,574375	01:44	100,3886	0,595907	1,439219
	0,69383	69,68576	1,744257	01:49	100,4364	0,645109	1,574375
Pore Volume	0,751389	75,47158	2,014373	01:58	100,4428	0,69383	1,744257
	0,801488	80,51636	2,355429	02:09	100,4586	0,751389	2,014373
Single poin	0,820591	82,41225	2,522869	02:15	100,4303	0,801488	2,355429
less than 1 0,014900 cm ³ /g	0,84523	84,91063	2,794919	02:23	100,4586	0,820591	2,522869
	0,869748	87,31102	3,127492	02:32	100,3866	0,84523	2,794919
Single poin	0,902557	90,38479	3,710403	02:47	100,143	0,869748	3,127492
less than 2 0,142028 cm ³ /g	0,922013	92,24759	4,184213	02:56	100,0502	0,902557	3,710403
	0,946689	94,87406	5,112859	03:11	100,2167	0,922013	4,184213
t-Plot micrc 0,003541 cm ³ /g	0,971539	97,20775	6,731328	03:31	100,0555	0,946689	5,112859
	0,979358	97,93923	7,502892	03:44	100,0035	0,971539	6,731328
BJH Adsor	0,98854	98,88	8,16175	03:52	100,0264	0,979358	7,502892
between 170,107485 cm ³ /g	0,988854	98,92788	8,333809	03:54	100,0429	0,98854	8,16175
	0,983535	98,3914	8,202774	03:57	100,0386	0,988854	8,333809
BJH Desor	0,978772	97,96331	8,04002	04:00	100,0879		
between 170,128058 cm ³ /g	0,975272	97,65128	7,869074	04:05	100,1272		
	0,952968	95,44538	6,231796	04:33	100,1559		
	0,928941	93,23968	5,00939	04:51	100,372		
	0,900834	90,48214	4,096559	05:08	100,4426		
Pore Size	0,879235	88,2836	3,61677	05:23	100,4095		
	0,849397	85,3972	3,106168	05:39	100,5386		
Adsorption 9,228 Å	0,829849	83,45146	2,837939	05:47	100,5622		
	0,806139	81,09931	2,573465	05:56	100,6022		
Desorption 87,963 Å	0,751079	75,53767	2,116342	06:06	100,5722		
	0,703697	70,73465	1,843047	06:13	100,5187		
BJH Adsor 61,468 Å	0,654426	65,80885	1,636989	06:20	100,5597		

BJH Desor 69,924 Å	0,606323	60,99748	1,484917	06:25	100,6022
	0,556011	55,90813	1,357483	06:29	100,5521
	0,504735	50,75922	1,249068	06:33	100,5661
	0,453662	45,64951	1,153602	06:37	100,6244
	0,403571	40,55941	1,067656	06:40	100,5012
MP-Method	0,3526	35,43896	0,994259	06:43	100,5076
	0,302377	30,40354	0,929049	06:46	100,5484
Cumulative	0,25165	25,31362	0,869086	06:49	100,5907
12,1604 Å 0,0000 m²/g	0,201564	20,26752	0,814082	06:52	100,5512
	0,143912	14,4821	0,752711	06:55	100,6318
Cumulative					
12,1604 Å 0,000000 cm³/g					
Average pc 0,0000 Å					

MicroActive TriStar II 3020
Page 1
Unit 1 Port 1

Unclacined

I 3020\data\DUT\Asen.

Analysis at N2
Analysis at 77,350 K
Thermal cc No
Ambient fr 11,2516 cn
Equilibratio 10 s
Sample de 1,000 g/cm

MgO uncalcined : Mgo
Relative Pr Quantity Ar
0,988854 8,333809
0,983535 8,202774
0,978772 8,04002
0,975272 7,869074
0,952968 6,231796
0,928941 5,00939
0,900834 4,096559

Micromeritics Instrument Corporation
MicroActive TriStar II 3020
Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample m 0,2152 g Ambient fr 11,2516 cn
Analysis fr 34,5351 cn Equilibratio 10 s
Low press None Sample de 1,000 g/cm
Automatic No

Isotherm Log Plot

MgO uncalcined : Mgo MgO uncalcined : Mgo
Relative Pr Quantity Ar Relative Pr Quantity Ar
0,009716 0,429774 0,988854 8,333809
0,030179 0,578051 0,983535 8,202774
0,061455 0,649456 0,978772 8,04002
0,078804 0,675561 0,975272 7,869074
0,100034 0,703145 0,952968 6,231796
0,119945 0,7268 0,928941 5,00939
0,140052 0,749321 0,900834 4,096559

Micromeritics Instrument Corporation
MicroActive TriStar II 3020
Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample m 0,2152 g Ambient fr 11,2516 cn
Analysis fr 34,5351 cn Equilibratio 10 s
Low press None Sample de 1,000 g/cm
Automatic No

BET Report

BET surfac 64,5857 ± 0,1954 m²/g
Slope: 1,50294 ± 0,00451 g/mmol
Y-intercept 0,00759 ± 0,00075 g/mmol
C: 198,913951
Qm: 0,66202 mmol/g
Correlation 0,9999595
Molecular c 0,1620 nm²

0,879235	3,61677	0,160157	0,771327	0,879235	3,61677
0,849397	3,106168	0,179691	0,792352	0,849397	3,106168
0,829849	2,837939	0,199789	0,814045	0,829849	2,837939
0,806139	2,573465	0,246721	0,866262	0,806139	2,573465
0,751079	2,116342	0,299161	0,92887	0,751079	2,116342
0,703697	1,843047	0,348088	0,993145	0,703697	1,843047
0,654426	1,636989	0,397725	1,06516	0,654426	1,636989
0,606323	1,484917	0,447598	1,144109	0,606323	1,484917
0,556011	1,357483	0,496795	1,230024	0,556011	1,357483
0,504735	1,249068	0,546735	1,327213	0,504735	1,249068
0,453662	1,153602	0,595907	1,439219	0,453662	1,153602
0,403571	1,067656	0,645109	1,574375	0,403571	1,067656
0,3526	0,994259	0,69383	1,744257	0,3526	0,994259
0,302377	0,929049	0,751389	2,014373	0,302377	0,929049
0,25165	0,869086	0,801488	2,355429	0,25165	0,869086
0,201564	0,814082	0,820591	2,522869	0,201564	0,814082
0,143912	0,752711	0,84523	2,794919	0,143912	0,752711
		0,869748	3,127492		
		0,902557	3,710403		
		0,922013	4,184213		
		0,946689	5,112859		
		0,971539	6,731328		
		0,979358	7,502892		
		0,98854	8,16175		
		0,988854	8,333809		

Relative Pr Quantity Ac 1/[Q(p°/p - 1)]

0,030179	0,578051	0,053833
0,061455	0,649456	0,100821
0,078804	0,675561	0,126628
0,100034	0,703145	0,158079
0,119945	0,7268	0,187523
0,140052	0,749321	0,217346
0,160157	0,771327	0,247235
0,179691	0,792352	0,276459
0,199789	0,814045	0,306704
0,246721	0,866262	0,378096
0,299161	0,92887	0,45955

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2152 g Ambient pressure 11,2516 cm
Analysis pressure 34,5351 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

BET Surface Area Plot

MgO uncalcined : MgO Not Fitted
Relative Pressure 1/[Q(p°/p - Relative Pressure 1/[Q(p°/p -
0,030179 0,053833 0,009716 0,02283
0,061455 0,100821 0,348088 0,537634
0,078804 0,126628 0,397725 0,619973
0,100034 0,158079 0,447598 0,708215
0,119945 0,187523 0,496795 0,802636
0,140052 0,217346 0,546735 0,908832
0,160157 0,247235 0,595907 1,024636

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen...\MgO uncalcined.SMF

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2152 g Ambient pressure 11,2516 cm³ Measured
Analysis pressure 34,5351 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm³
Automatic No

BJH Adsorption Pore Distribution Report

Faas Correction
Halsey
 $t = 3.54 [-5 / \ln(p/p^\circ)] ^{0.333}$

Width range 17,000 to 3 000,000 Å
Adsorbate 9,53000 Å
Density correction 0,0015468

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1

Sample:
Operator:
Submitter:
File:

Started:
Completed
Report time
Sample mass
Analysis pressure
Low pressure
Automatic No

BJH Adsorption Pore Distribution Report

MgO uncalcined : MgO Not Fitted
Pore Width
133,4402
115,3297
104,3051
83,22102
67,2383
57,58444
50,06228

0,179691	0,276459	0,645109	1,154598
0,199789	0,306704	0,69383	1,29921
0,246721	0,378096	0,751389	1,500389
0,299161	0,45955	0,801488	1,714113
		0,820591	1,812962
		0,84523	1,953972
		0,869748	2,135068
		0,902557	2,496347
		0,922013	2,825528
		0,946689	3,473197
		0,971539	5,07113
		0,979358	6,32369
		0,98854	10,56852
		0,988854	10,64575

Fraction of 0,00

Pore Width Average W Increments Cumulative Increments Cumulative

158.1 - 133.4	143,5069	0,015589	0,015589	4,345131	4,345131
133.4 - 115.3	122,9454	0,012877	0,028466	4,18953	8,53466
115.3 - 104.3	109,2067	0,007951	0,036417	2,912183	11,44684
104.3 - 83.2	91,15544	0,016444	0,052861	7,215895	18,66274
83.2 - 67.2	73,33124	0,013021	0,065882	7,102433	25,76517
67.2 - 57.6	61,55879	0,008083	0,073965	5,25252	31,01769
57.6 - 50.1	53,21505	0,006313	0,080278	4,745126	35,76282
50.1 - 44.1	46,6113	0,005134	0,085412	4,406116	40,16893
44.1 - 39.1	41,19685	0,004356	0,089768	4,229009	44,39794
39.1 - 34.9	36,69621	0,003802	0,09357	4,144777	48,54272
34.9 - 31.3	32,85094	0,003415	0,096985	4,158111	52,70083
31.3 - 28.1	29,49666	0,003005	0,09999	4,074741	56,77557
28.1 - 25.3	26,55045	0,00247	0,10246	3,720532	60,4961
25.3 - 22.6	23,78273	0,002092	0,104552	3,519177	64,01528
22.6 - 20.3	21,32267	0,001412	0,105964	2,648151	66,66343
20.3 - 19.4	19,83365	0,00047	0,106433	0,946944	67,61037
19.4 - 18.5	18,90341	0,000392	0,106826	0,830386	68,44076
18.5 - 17.5	17,97305	0,000361	0,107186	0,802773	69,24353
17.5 - 16.6	17,02547	0,000299	0,107485	0,702401	69,94593

44,0581
39,05103
34,90036
31,28153
28,12353
25,33737
22,61519
20,33663
19,38874
18,47497
17,53477
16,58506

cs Instrument Corporation
TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Mgo unclacined
Ches
Amanda
C:\TriStar II 3020\data\DUT\Asen.

2021/10/22 Analysis ac N2
2021/10/22 Analysis bε 77,350 K
2021/11/03 Thermal cc No
0,2152 g Ambient frε 11,2516 cn
34,5351 cn Equilibratio 10 s
None Sample de 1,000 g/cm
No

ption Cumulative Pore Volume (La
ias Correction

clined : Mgo unclacined
Pore Volume (cm³/g)
0,015589
0,028466
0,036417
0,052861
0,065882
0,073965
0,080278

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 0,2152 g Ambient frε 11,2516 cn
Analysis frε 34,5351 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Adsorption dV/dw Pore Volume
Halsey : Faas Correction

MgO uncalcined : Mgo unclacined
Pore Width dV/dw Pore Volume (cm³/g·Å)
143,5069 0,000633
122,9454 0,000711
109,2067 0,000721
91,15544 0,00078
73,33124 0,000815
61,55879 0,000837
53,21505 0,000839

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 0,2152 g Ambient frε 11,2516 cn
Analysis frε 34,5351 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Adsorption dV/dlog(w) Pore Volume
Halsey : Faas Correction

MgO uncalcined : Mgo unclacined
Pore Width dV/dlog(w) Pore Volume (cm³/g)
143,5069 0,211916
122,9454 0,203284
109,2067 0,182208
91,15544 0,167674
73,33124 0,140588
61,55879 0,12009
53,21505 0,103838

0,085412		46,6113	0,000855		46,6113	0,092536
0,089768		41,19685	0,00087		41,19685	0,083132
0,09357		36,69621	0,000916		36,69621	0,077915
0,096985		32,85094	0,000944		32,85094	0,07183
0,09999		29,49666	0,000951		29,49666	0,065013
0,10246		26,55045	0,000886		26,55045	0,054505
0,104552		23,78273	0,000769		23,78273	0,042389
0,105964		21,32267	0,00062		21,32267	0,030607
0,106433		19,83365	0,000495		19,83365	0,022651
0,106826		18,90341	0,000429		18,90341	0,018718
0,107186		17,97305	0,000384		17,97305	0,015902
0,107485		17,02547	0,000315		17,02547	0,012363

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mε 0,2152 g Ambient frε 11,2516 cn
Analysis frε 34,5351 cn Equilibratio 10 s
Low pressu None Sample de 1,000 g/cm
Automatic i No

BJH Adsorption Cumulative Pore Area (Large
Halsey : Faas Correction

MgO uncalcined : Mgo unclacined
Pore Width Pore Area (m²/g)
133,4402 4,345131
115,3297 8,53466
104,3051 11,44684
83,22102 18,66274
67,2383 25,76517
57,58444 31,01769
50,06228 35,76282

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mε 0,2152 g Ambient frε 11,2516 cn
Analysis frε 34,5351 cn Equilibratio 10 s
Low pressu None Sample de 1,000 g/cm
Automatic i No

BJH Adsorption dA/dw Pore Area
Halsey : Faas Correction

MgO uncalcined : Mgo unclacined
Pore Width dA/dw Pore Area (m²/g·Å)
143,5069 0,17642
122,9454 0,231332
109,2067 0,264153
91,15544 0,342243
73,33124 0,444382
61,55879 0,544085
53,21505 0,63082

Micromeritics Instrume
MicroActive TriStar II 3(
Serial # 727

Sample: Mgo unclac
Operator: Ches
Submitter: Amanda
File: C:\TriStar I

Started: 2021/10/22
Completed 2021/10/22
Report time 2021/11/03
Sample mε 0,2152 g
Analysis frε 34,5351 cn
Low pressu None
Automatic i No

BJH Adsorption dA/dlo
Halsey : Faas Correcti

MgO uncalcined : Mgo
Pore Width dA/dlog(w)
143,5069 59,06776
122,9454 66,13787
109,2067 66,73876
91,15544 73,57701
73,33124 76,68664
61,55879 78,03289
53,21505 78,05193

44,0581	40,16893
39,05103	44,39794
34,90036	48,54272
31,28153	52,70083
28,12353	56,77557
25,33737	60,4961
22,61519	64,01528
20,33663	66,66343
19,38874	67,61037
18,47497	68,44076
17,53477	69,24353
16,58506	69,94593

46,6113	0,733842
41,19685	0,844607
36,69621	0,99858
32,85094	1,149019
29,49666	1,290293
26,55045	1,335362
23,78273	1,292778
21,32267	1,162201
19,83365	0,999
18,90341	0,908749
17,97305	0,853837
17,02547	0,739592

46,6113	79,41117
41,19685	80,71664
36,69621	84,92945
32,85094	87,46187
29,49666	88,16333
26,55045	82,11594
23,78273	71,29423
21,32267	57,417
19,83365	45,68112
18,90341	39,60669
17,97305	35,39008
17,02547	29,04507

MicroActive TriStar II 3020
Page 1
Unit 1 Port 1

Sample: Mgo uncalcined

Operator: Ches

Submitter: Amanda

File: C:\TriStar II 3020\data\DUT\Asen...

Analysis at N2

Analysis at 77,350 K

Thermal conductivity

Ambient pressure 11,2516 cm³

Equilibration time 10 s

Sample density 1,000 g/cm³

BJH Desorption Pore Distribution Report

Sample: Mgo uncalcined
Pore Area (m²/g)

Micromeritics Instrument Corporation
MicroActive TriStar II 3020
Serial # 727 Unit 1 Port 1

Sample: Mgo uncalcined

Operator: Ches

Submitter: Amanda

File: C:\TriStar II 3020\data\DUT\Asen...MgO uncalcined.SMF

Started: 2021/10/22 Analysis at N2

Completed 2021/10/22 Analysis at 77,350 K

Report time 2021/11/03 Thermal conductivity

Sample mass 0,2152 g Ambient pressure 11,2516 cm³ Measured

Analysis at 34,5351 cm³ Equilibration time 10 s

Low pressure None Sample density 1,000 g/cm³

Automatic correction No

BJH Desorption Pore Distribution Report

Faas Correction

Halsey

$t = 3.54 [-5 / \ln(p/p^0)] ^{0.333}$

Width range 17,000 to 3 000,000 Å

Adsorbate 9,53000 Å

Density correction 0,0015468

Micromeritics Instrument Corporation
MicroActive TriStar II 3020
Serial # 727 Unit 1 Port 1

Sample: Mgo uncalcined

Operator: Ches

Submitter: Amanda

File: C:\TriStar II 3020\data\DUT\Asen...MgO uncalcined.SMF

Started: 2021/10/22 Analysis at N2

Completed 2021/10/22 Analysis at 77,350 K

Report time 2021/11/03 Thermal conductivity

Sample mass 0,2152 g Ambient pressure 11,2516 cm³ Measured

Analysis at 34,5351 cm³ Equilibration time 10 s

Low pressure None Sample density 1,000 g/cm³

Automatic correction No

BJH Desorption Cumulative Pore Volume
Halsey : Faas Correction

MgO uncalcined : Mgo uncalcined
Pore Width Pore Volume (cm³/g)

137,7692 0,023909

122,2316 0,036575

107,4913 0,049165

83,81228 0,071363

70,25322 0,084586

59,92843 0,094399

52,20551 0,101433

Fraction of 0,00							45,79449	0,107153
							40,48345	0,111867
							36,07362	0,115949
							32,3764	0,119593
							29,09155	0,122322
Pore Width Average W Increments Cumulative Increments Cumulative							26,20846	0,124501
170.9 - 137	150,511	0,023909	0,023909	6,354146	6,354146		23,55801	0,126179
137.8 - 122	128,9811	0,012666	0,036575	3,927961	10,28211		21,11711	0,127324
122.2 - 107	113,8159	0,01259	0,049165	4,42461	14,70672		18,41183	0,128058
107.5 - 83.1	92,4187	0,022198	0,071363	9,607793	24,31451			
83.8 - 70.3	75,68151	0,013223	0,084586	6,988828	31,30334			
70.3 - 59.9	64,14851	0,009812	0,094399	6,118415	37,42175			
59.9 - 52.2	55,44511	0,007035	0,101433	5,075051	42,4968			
52.2 - 45.8	48,50277	0,00572	0,107153	4,717141	47,21395			
45.8 - 40.5	42,74584	0,004714	0,111867	4,411419	51,62536			
40.5 - 36.1	37,96876	0,004082	0,115949	4,299935	55,9253			
36.1 - 32.4	33,9781	0,003644	0,119593	4,28959	60,21489			
32.4 - 29.1	30,51403	0,00273	0,122322	3,578085	63,79297			
29.1 - 26.2	27,45907	0,002178	0,124501	3,173308	66,96628			
26.2 - 23.6	24,70144	0,001678	0,126179	2,717376	69,68366			
23.6 - 21.1	22,1633	0,001145	0,127324	2,066866	71,75052			
21.1 - 18.4	19,51919	0,000734	0,128058	1,505153	73,25568			

ion	Micromeritics Instrument Corporation	Micromeritics Instrument Corporation	Micromeritics Instrument Corporation
Port 1	MicroActive TriStar II 3020 Page 1	MicroActive TriStar II 3020 Page 1	MicroActive TriStar II 3020 Page 1
	Serial # 727 Unit 1 Port 1	Serial # 727 Unit 1 Port 1	Serial # 727 Unit 1 Port 1
	Sample: Mgo uncalcined	Sample: Mgo uncalcined	Sample: Mgo uncalcined
	Operator: Ches	Operator: Ches	Operator: Ches
	Submitter: Amanda	Submitter: Amanda	Submitter: Amanda
DUT\Asen.	File: C:\TriStar II 3020\data\DUT\Asen.	File: C:\TriStar II 3020\data\DUT\Asen.	File: C:\TriStar II 3020\data\DUT\Asen.
N2	Started: 2021/10/22 Analysis at N2	Started: 2021/10/22 Analysis at N2	Started: 2021/10/22 Analysis at N2
77,350 K	Completed 2021/10/22 Analysis at 77,350 K	Completed 2021/10/22 Analysis at 77,350 K	Completed 2021/10/22 Analysis at 77,350 K
No	Report time 2021/11/03 Thermal cc No	Report time 2021/11/03 Thermal cc No	Report time 2021/11/03 Thermal cc No
11,2516 cm	Sample mass 0,2152 g Ambient pressure 11,2516 cm	Sample mass 0,2152 g Ambient pressure 11,2516 cm	Sample mass 0,2152 g Ambient pressure 11,2516 cm
10 s	Analysis pressure 34,5351 cm Equilibration 10 s	Analysis pressure 34,5351 cm Equilibration 10 s	Analysis pressure 34,5351 cm Equilibration 10 s
1,000 g/cm	Low pressure None Sample density 1,000 g/cm	Low pressure None Sample density 1,000 g/cm	Low pressure None Sample density 1,000 g/cm
	Automatic No	Automatic No	Automatic No
Volume (La	BJH Desorption dV/dw Pore Volume	BJH Desorption dV/dlog(w) Pore Volume	BJH Desorption dV/dlog(w) Pore Volume
	Halsey : Faas Correction	Halsey : Faas Correction	Halsey : Faas Correction
	MgO uncalcined : Mgo uncalcined	MgO uncalcined : Mgo uncalcined	MgO uncalcined : Mgo uncalcined
	Pore Width dV/dw Pore Volume (cm³/g·Å)	Pore Width dV/dlog(w) Pore Volume (cm³/g)	Pore Width dV/dlog(w) Pore Volume (cm³/g)
	150,511 0,000721	150,511 0,255357	137,7692
	128,9811 0,000815	128,9811 0,24372	122,2316
	113,8159 0,000854	113,8159 0,225583	107,4913
	92,4187 0,000937	92,4187 0,205416	83,81228
	75,68151 0,000975	75,68151 0,172532	70,25322
	64,14851 0,00095	64,14851 0,142137	59,92843
	55,44511 0,000911	55,44511 0,117408	52,20551

	48,50277	0,000892
	42,74584	0,000888
	37,96876	0,000926
	33,9781	0,000986
	30,51403	0,000831
	27,45907	0,000756
	24,70144	0,000633
	22,1633	0,000469
	19,51919	0,000271

	48,50277	0,100519
	42,74584	0,088058
	37,96876	0,081489
	33,9781	0,077592
	30,51403	0,058748
	27,45907	0,048061
	24,70144	0,036241
	22,1633	0,024108
	19,51919	0,012336

	45,79449
	40,48345
	36,07362
	32,3764
	29,09155
	26,20846
	23,55801
	21,11711
	18,41183

cs Instrument Corporation
TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Mgo unclacined
Ches
Amanda
C:\TriStar II 3020\data\DUT\Asen.

2021/10/22 Analysis ac N2
2021/10/22 Analysis bε 77,350 K
2021/11/03 Thermal cc No
0,2152 g Ambient frε 11,2516 cn
34,5351 cn Equilibratio 10 s
None Sample de 1,000 g/cm
No

ption Cumulative Pore Area (Large
ias Correction

clined : Mgo unclacined
Pore Area (m²/g)
6,354146
10,28211
14,70672
24,31451
31,30334
37,42175
42,4968

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 0,2152 g Ambient frε 11,2516 cn
Analysis frε 34,5351 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Desorption dA/dw Pore Area
Halsey : Faas Correction

MgO uncalcined : Mgo unclacined
Pore Width dA/dw Pore Area (m²/g·Å)
150,511 0,191698
128,9811 0,252804
113,8159 0,300172
92,4187 0,405751
75,68151 0,515436
64,14851 0,592595
55,44511 0,657142

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 1

Sample: Mgo unclacined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen.

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 0,2152 g Ambient frε 11,2516 cn
Analysis frε 34,5351 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Desorption dA/dlog(w) Pore Area
Halsey : Faas Correction

MgO uncalcined : Mgo unclacined
Pore Width dA/dlog(w) Pore Area (m²/g)
150,511 67,86411
128,9811 75,58331
113,8159 79,28
92,4187 88,90689
75,68151 91,18863
64,14851 88,62989
55,44511 84,70202

47,21395		48,50277	0,735786		48,50277	82,89776
51,62536		42,74584	0,830612		42,74584	82,40133
55,9253		37,96876	0,97508		37,96876	85,84798
60,21489		33,9781	1,160223		33,9781	91,34353
63,79297		30,51403	1,089268		30,51403	77,01148
66,96628		27,45907	1,100662		27,45907	70,01173
69,68366		24,70144	1,02525		24,70144	58,6869
71,75052		22,1633	0,846764		22,1633	43,50917
73,25568		19,51919	0,556375		19,51919	25,28071

..\MgO uncalcined.SMP

γ^3 Measured

3

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asena

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2027 g Ambient pressure 11,5986 cm
Analysis pressure 35,2593 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

Summary Report

Surface Area

Single point 77,5501 m²/g

BET Surface 78,8142 m²/g

Langmuir 208,2724 m²/g

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asena...VMgO c

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2027 g Ambient pressure 11,5986 cm³ Measure
Analysis pressure 35,2593 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm³
Automatic No

Isotherm Tabular Report

Relative Pressure	Absolute Pressure	Quantity Adsorbed	Elapsed Time	Saturation
0,010393	1,042649	0,571466	00:38	100,5005
0,031332	3,149193	0,693534	00:49	100,3269
0,061758	6,205943	0,768333	00:52	100,5108
0,078373	7,87761	0,797807	00:55	100,4887
0,099828	10,03227	0,831818	00:58	100,5145
0,119776	12,03699	0,861392	01:01	100,4956
0,139784	14,04616	0,890015	01:03	100,4961
0,159727	16,05042	0,91845	01:06	100,4851
			01:09	100,4869

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asena

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2027 g Ambient pressure 11,5986 cm
Analysis pressure 35,2593 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

Isotherm Linear Plot

VMgO calcined : VMgO calcined

Relative Pressure	Absolute Pressure	Quantity Adsorbed
0,010393	1,042649	0,571466
0,031332	3,149193	0,693534
0,061758	6,205943	0,768333
0,078373	7,87761	0,797807
0,099828	10,03227	0,831818
0,119776	12,03699	0,861392
0,139784	14,04616	0,890015
0,159727	16,05042	0,91845

t-Plot Micrc 1,6794 m ² /g	0,179274	18,01807	0,946604	01:12	100,506	0,159727	0,91845
	0,199253	20,02284	0,975773	01:15	100,4894	0,179274	0,946604
t-Plot exter 77,1349 m ² /g	0,245956	24,7035	1,046842	01:18	100,4386	0,199253	0,975773
	0,297409	29,89087	1,131388	01:21	100,5043	0,245956	1,046842
BJH Adsor	0,34798	34,95546	1,22079	01:25	100,4524	0,297409	1,131388
between 1781,4521 m ² /g	0,397308	39,91205	1,314736	01:29	100,4563	0,34798	1,22079
	0,447102	44,90469	1,416329	01:33	100,4351	0,397308	1,314736
BJH Desor	0,496571	49,86146	1,526494	01:37	100,4115	0,447102	1,416329
between 1791,6453 m ² /g	0,546224	54,83191	1,648132	01:42	100,3836	0,496571	1,526494
	0,595353	59,79242	1,784259	01:46	100,4318	0,546224	1,648132
	0,644929	64,77958	1,941137	01:51	100,4445	0,595353	1,784259
	0,694211	69,70796	2,126483	01:57	100,4132	0,644929	1,941137
Pore Volume	0,744061	74,7206	2,351674	02:03	100,4226	0,694211	2,126483
	0,793827	79,72815	2,60668	02:10	100,4352	0,744061	2,351674
Single poin	0,818287	82,20394	2,733594	02:16	100,4586	0,793827	2,60668
less than 1 0,019813 cm ³ /g	0,846057	84,93648	2,885118	02:22	100,391	0,818287	2,733594
	0,868715	87,26132	3,051399	02:28	100,4487	0,846057	2,885118
Single poin	0,901019	90,17813	3,401415	02:41	100,0846	0,868715	3,051399
less than 1 0,125015 cm ³ /g	0,920327	92,18712	3,753554	02:49	100,1678	0,901019	3,401415
	0,944855	94,64418	4,408614	03:01	100,1679	0,920327	3,753554
t-Plot micrc 0,000361 cm ³ /g	0,970983	97,28818	6,0137	03:21	100,1955	0,944855	4,408614
	0,980688	98,10301	6,85498	03:35	100,0348	0,970983	6,0137
BJH Adsor	0,985166	98,70529	7,206315	03:37	100,1915	0,980688	6,85498
between 170,099567 cm ³ /g	0,988941	99,06063	8,455592	03:41	100,1684	0,985166	7,206315
	0,98987	98,99951	8,252155	03:44	100,0126	0,988941	8,455592
BJH Desor	0,984717	98,60185	7,658463	03:47	100,1322		
between 170,129207 cm ³ /g	0,978275	97,92473	7,44614	03:50	100,0993		
	0,952052	95,28413	5,693334	04:19	100,0829		
	0,928398	93,13851	4,4746	04:42	100,3218		
	0,892046	89,57797	3,605846	05:03	100,4186		
Pore Size	0,878956	88,24184	3,411583	05:10	100,3939		
	0,85047	85,37818	3,091599	05:21	100,3894		
Adsorption 10,055 Å	0,82902	83,25457	2,921068	05:28	100,4253		
	0,805606	80,88897	2,776754	05:34	100,4076		
Desorption 63,448 Å	0,752709	75,66984	2,518718	05:43	100,53		
	0,703883	70,75016	2,288824	05:50	100,5141		
BJH Adsor 48,896 Å	0,655845	65,91158	2,074742	05:57	100,4988		

BJH Desor 56,394 Å	0,603725	60,7049	1,877359	06:03	100,5505
	0,554761	55,76327	1,720824	06:08	100,5177
	0,504548	50,76357	1,581832	06:13	100,6119
	0,454335	45,72413	1,452576	06:18	100,6397
MP-Method	0,404283	40,6441	1,32848	06:23	100,5338
	0,352591	35,46168	1,227493	06:26	100,5746
	0,303919	30,53062	1,140328	06:30	100,4563
Cumulative	0,252016	25,34225	1,055356	06:34	100,5582
10,2073 Å 37,6425 m ² /g	0,20159	20,27879	0,978783	06:37	100,5943
	0,146366	14,72256	0,899625	06:41	100,587
Cumulative					
10,2073 Å 0,044074 cm ³ /g					
Average pc 11,7085 Å					

MicroActive TriStar II 3020
Page 1
Unit 1 Port 2

Sample: VMgO calcined

Operator: Ches

Submitter: Amanda

File: C:\TriStar II 3020\data\DUT\Asenc

Started: 2021/10/22

Analysis at N2

Completed 2021/10/22

Analysis at 77,350 K

Thermal cycle No

Report time 2021/11/03

Thermal cycle No

Sample mass 0,2027 g

Ambient pressure 11,5986 cm

Analysis frequency 35,2593 cm

Equilibration time 10 s

Sample density 1,000 g/cm

Low pressure None

Sample density 1,000 g/cm

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

MicroActive TriStar II 3020
Page 1
Unit 1 Port 2

Sample: VMgO calcined

Operator: Ches

Submitter: Amanda

File: C:\TriStar II 3020\data\DUT\Asenc

Started: 2021/10/22

Analysis at N2

Completed 2021/10/22

Analysis at 77,350 K

Thermal cycle No

Report time 2021/11/03

Thermal cycle No

Sample mass 0,2027 g

Ambient pressure 11,5986 cm

Analysis frequency 35,2593 cm

Equilibration time 10 s

Sample density 1,000 g/cm

Low pressure None

Sample density 1,000 g/cm

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

MicroActive TriStar II 3020
Page 1
Unit 1 Port 2

Sample: VMgO calcined

Operator: Ches

Submitter: Amanda

File: C:\TriStar II 3020\data\DUT\Asenc

Started: 2021/10/22

Analysis at N2

Completed 2021/10/22

Analysis at 77,350 K

Thermal cycle No

Report time 2021/11/03

Thermal cycle No

Sample mass 0,2027 g

Ambient pressure 11,5986 cm

Analysis frequency 35,2593 cm

Equilibration time 10 s

Sample density 1,000 g/cm

Low pressure None

Sample density 1,000 g/cm

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Automatic No

Isotherm Log Plot

VMgO calcined : VMgO
Relative Pressure Quantity
0,988941 8,455592
0,98987 8,252155
0,984717 7,658463
0,978275 7,44614
0,952052 5,693334
0,928398 4,4746
0,892046 3,605846

BET Report

BET surface 78,8142 ± 0,2404 m²/g
Slope: 1,22769 ± 0,00373 g/mmol
Y-intercept 0,01015 ± 0,00062 g/mmol
C: 121,982211
Qm: 0,80786 mmol/g
Correlation 0,9999586
Molecular weight 0,1620 nm²

0,878956	3,411583	0,159727	0,91845	0,878956	3,411583
0,85047	3,091599	0,179274	0,946604	0,85047	3,091599
0,82902	2,921068	0,199253	0,975773	0,82902	2,921068
0,805606	2,776754	0,245956	1,046842	0,805606	2,776754
0,752709	2,518718	0,297409	1,131388	0,752709	2,518718
0,703883	2,288824	0,34798	1,22079	0,703883	2,288824
0,655845	2,074742	0,397308	1,314736	0,655845	2,074742
0,603725	1,877359	0,447102	1,416329	0,603725	1,877359
0,554761	1,720824	0,496571	1,526494	0,554761	1,720824
0,504548	1,581832	0,546224	1,648132	0,504548	1,581832
0,454335	1,452576	0,595353	1,784259	0,454335	1,452576
0,404283	1,32848	0,644929	1,941137	0,404283	1,32848
0,352591	1,227493	0,694211	2,126483	0,352591	1,227493
0,303919	1,140328	0,744061	2,351674	0,303919	1,140328
0,252016	1,055356	0,793827	2,60668	0,252016	1,055356
0,20159	0,978783	0,818287	2,733594	0,20159	0,978783
0,146366	0,899625	0,846057	2,885118	0,146366	0,899625
		0,868715	3,051399		
		0,901019	3,401415		
		0,920327	3,753554		
		0,944855	4,408614		
		0,970983	6,0137		
		0,980688	6,85498		
		0,985166	7,206315		
		0,988941	8,455592		

Relative Pr Quantity $A_c 1/[Q(p^\circ/p - 1)]$

0,031332	0,693534	0,046638
0,061758	0,768333	0,085669
0,078373	0,797807	0,106589
0,099828	0,831818	0,133321
0,119776	0,861392	0,15797
0,139784	0,890015	0,182579
0,159727	0,91845	0,206967
0,179274	0,946604	0,230754
0,199253	0,975773	0,255012
0,245956	1,046842	0,311588
0,297409	1,131388	0,374145

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asena

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2027 g Ambient pressure 11,5986 cm
Analysis pressure 35,2593 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

BET Surface Area Plot

VMgO calcined : VMgO (Not Fitted)
Relative Pressure 1/[Q(p°/p - Relative Pressure 1/[Q(p°/p -
0,031332 0,046638 0,010393 0,018377
0,061758 0,085669 0,34798 0,437172
0,078373 0,106589 0,397308 0,50141
0,099828 0,133321 0,447102 0,570948
0,119776 0,15797 0,496571 0,646172
0,139784 0,182579 0,546224 0,730359
0,159727 0,206967 0,595353 0,824595

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asena...VMgO calcined.SMI

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 0,2027 g Ambient pressure 11,5986 cm³ Measured
Analysis pressure 35,2593 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm³
Automatic No

BJH Adsorption Pore Distribution Report

Faas Correction
Halsey
 $t = 3.54 [-5 / \ln(p/p^\circ)] ^{0.333}$

Width range 17,000 to 3 000,000 Å
Adsorbate 9,53000 Å
Density correction 0,0015468

Micromeritics
MicroActive

Sample:
Operator:
Submitter:
File:

Started:
Completed
Report time
Sample mass
Analysis pressure
Low pressure
Automatic

BJH Adsorption Pore Distribution Report Halsey : Fa

VMgO calcined : VMgO (Not Fitted)
Pore Width
133,0348
112,7694
99,33
79,69432
66,21405
56,44204
48,87605

0,179274	0,230754	0,644929	0,935708
0,199253	0,255012	0,694211	1,067599
0,245956	0,311588	0,744061	1,236219
0,297409	0,374145	0,793827	1,477087
		0,818287	1,647349
		0,846057	1,904916
		0,868715	2,168527
		0,901019	2,676225
		0,920327	3,077427
		0,944855	3,886516
		0,970983	5,564457
		0,980688	7,408099
		0,985166	9,215968
		0,988941	10,57534

Fraction of 0,00						
Pore Width Average W Increments Cumulative Increments Cumulative						
155.7 - 133	142,471	0,007678	0,007678	2,155667	2,155667	
133.0 - 112	121,0969	0,007043	0,014721	2,32651	4,482177	
112.8 - 99.7	105,12	0,00597	0,020691	2,27155	6,753727	
99.3 - 79.7	87,16437	0,012309	0,032999	5,64841	12,40214	
79.7 - 66.2	71,57543	0,011051	0,044051	6,176055	18,57819	
66.2 - 56.4	60,45507	0,009137	0,053188	6,04538	24,62357	
56.4 - 48.9	52,04302	0,00772	0,060907	5,933255	30,55683	
48.9 - 42.9	45,43657	0,006686	0,067593	5,885814	36,44264	
42.9 - 37.9	40,05194	0,005925	0,073518	5,917435	42,36	
37.9 - 33.8	35,55267	0,005319	0,078838	5,984895	48,34497	
33.8 - 30.1	31,70734	0,004822	0,08366	6,083621	54,42859	
30.1 - 27.0	28,37073	0,004362	0,088022	6,150406	60,579	
27.0 - 24.1	25,37654	0,003966	0,091988	6,250703	66,8297	
24.1 - 21.5	22,6123	0,003462	0,09545	6,124191	72,95389	
21.5 - 19.2	20,18104	0,002501	0,097951	4,958031	77,91192	
19.2 - 18.3	18,70017	0,00087	0,098822	1,861502	79,77342	
18.3 - 17.3	17,77221	0,000746	0,099567	1,67863	81,45205	

42,89064
37,91927
33,75042
30,14205
27,00579
24,13119
21,46576
19,1999
18,25786
17,34357

cs Instrument Corporation
TriStar II 3(Page 1
Serial # 727 Unit 1 Port 2

VMgO calcined
Ches
Amanda
C:\TriStar II 3020\data\DUT\Asen

2021/10/22 Analysis ac N2
2021/10/22 Analysis bε 77,350 K
2021/11/03 Thermal cc No
0,2027 g Ambient frε 11,5986 cn
35,2593 cn Equilibratio 10 s
None Sample de 1,000 g/cm
No

ption Cumulative Pore Volume (La
ias Correction

ined : VMgO calcined
Pore Volume (cm³/g)
0,007678
0,014721
0,020691
0,032999
0,044051
0,053188
0,060907

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 0,2027 g Ambient frε 11,5986 cn
Analysis frε 35,2593 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Adsorption dV/dw Pore Volume
Halsey : Faas Correction

VMgO calcined : VMgO calcined
Pore Width dV/dw Pore Volume (cm³/g·Å)
142,471 0,000338
121,0969 0,000348
105,12 0,000444
87,16437 0,000627
71,57543 0,00082
60,45507 0,000935
52,04302 0,00102

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 0,2027 g Ambient frε 11,5986 cn
Analysis frε 35,2593 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Adsorption dV/dlog(w) Pore Volume
Halsey : Faas Correction

VMgO calcined : VMgO calcined
Pore Width dV/dlog(w) Pore Volume (cm³/g)
142,471 0,112193
121,0969 0,098132
105,12 0,108321
87,16437 0,128678
71,57543 0,137323
60,45507 0,131755
52,04302 0,123501

0,067593		45,43657	0,001117		45,43657	0,117845
0,073518		40,05194	0,001192		40,05194	0,110745
0,078838		35,55267	0,001276		35,55267	0,105168
0,08366		31,70734	0,001336		31,70734	0,098203
0,088022		28,37073	0,001391		28,37073	0,091422
0,091988		25,37654	0,00138		25,37654	0,081131
0,09545		22,6123	0,001299		22,6123	0,068107
0,097951		20,18104	0,001104		20,18104	0,051632
0,098822		18,70017	0,000924		18,70017	0,039831
0,099567		17,77221	0,000816		17,77221	0,033428

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mε 0,2027 g Ambient frε 11,5986 cn
Analysis frε 35,2593 cn Equilibratio 10 s
Low pressu None Sample de 1,000 g/cm
Automatic r No

BJH Adsorption Cumulative Pore Area (Large
Halsey : Faas Correction

VMgO calcined : VMgO calcined
Pore Width Pore Area (m²/g)
133,0348 2,155667
112,7694 4,482177
99,33 6,753727
79,69432 12,40214
66,21405 18,57819
56,44204 24,62357
48,87605 30,55683

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asen

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mε 0,2027 g Ambient frε 11,5986 cn
Analysis frε 35,2593 cn Equilibratio 10 s
Low pressu None Sample de 1,000 g/cm
Automatic r No

BJH Adsorption dA/dw Pore Area
Halsey : Faas Correction

VMgO calcined : VMgO calcined
Pore Width dA/dw Pore Area (m²/g·Å)
142,471 0,09494
121,0969 0,114802
105,12 0,169023
87,16437 0,287659
71,57543 0,458155
60,45507 0,618642
52,04302 0,784201

Micromeritics Instrume
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calc
Operator: Ches
Submitter: Amanda
File: C:\TriStar I

Started: 2021/10/22
Completed 2021/10/22
Report time 2021/11/03
Sample mε 0,2027 g
Analysis frε 35,2593 cn
Low pressu None
Automatic r No

BJH Adsorption dA/dlo
Halsey : Faas Correcti

VMgO calcined : VMgO calcined
Pore Width dA/dlog(w)
142,471 31,49917
121,0969 32,41447
105,12 41,21807
87,16437 59,0508
71,57543 76,74292
60,45507 87,1752
52,04302 94,92213

42,89064	36,44264
37,91927	42,36
33,75042	48,34497
30,14205	54,42859
27,00579	60,579
24,13119	66,8297
21,46576	72,95389
19,1999	77,91192
18,25786	79,77342
17,34357	81,45205

45,43657	0,98336
40,05194	1,190302
35,55267	1,435624
31,70734	1,685972
28,37073	1,961066
25,37654	2,17446
22,6123	2,297637
20,18104	2,188139
18,70017	1,976038
17,77221	1,835993

45,43657	103,7448
40,05194	110,6009
35,55267	118,3236
31,70734	123,8864
28,37073	128,8965
25,37654	127,8834
22,6123	120,4779
20,18104	102,3384
18,70017	85,19833
17,77221	75,23652

Instrument Corporation
Page 1
7 Unit 1 Port 2

ined

I 3020\data\DUT\Asena...

Analysis at N2
Analysis at 77,350 K
Thermal conductivity
Ambient frequency 11,5986 cm
Equilibration 10 s
Sample density 1,000 g/cm

g(w) Pore Area
on

VMgO calcined
Pore Area (m²/g)

Micromeritics Instrument Corporation
MicroActive TriStar II 3020 Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asena...\VMgO calcined.SMI

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal conductivity
Sample mass 0,2027 g Ambient frequency 11,5986 cm³ Measured
Analysis frequency 35,2593 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm³
Automatic No

BJH Desorption Pore Distribution Report

Faas Correction
Halsey
 $t = 3.54 [-5 / \ln(p/p^0)] ^{0.333}$

Width range 17,000 to 3 000,000 Å
Adsorbate 9,53000 Å
Density correction 0,0015468

Micromeritics Instrument Corporation
MicroActive TriStar II 3020 Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal conductivity
Sample mass 0,2027 g Ambient frequency 11,5986 cm³ Measured
Analysis frequency 35,2593 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm³
Automatic No

BJH Desorption Cumulative Pore Volume
Halsey : Faas Correction

VMgO calcined : VMgO calcined
Pore Width Pore Volume (cm³/g)
170,5604 0,008843
138,7649 0,023621
121,6776 0,031528
107,2284 0,038244
84,39496 0,050527
70,3264 0,061956
60,21467 0,072972

Fraction of 0,00							51,86607	0,083259
							45,68	0,09142
							40,49394	0,098641
							36,15507	0,105449
							32,45337	0,112121
Pore Width Average W Increments Cumulative Increments Cumulative							29,11901	0,116966
190.7 - 170	179,4058	0,008843	0,008843	1,971514	1,971514		26,32073	0,120947
170.6 - 138	151,14	0,014779	0,023621	3,911322	5,882836		23,6044	0,124476
138.8 - 121	128,9916	0,007907	0,031528	2,451815	8,334651		21,14634	0,127184
121.7 - 107	113,4441	0,006716	0,038244	2,36806	10,70271		18,55473	0,129207
107.2 - 84	92,80546	0,012283	0,050527	5,294198	15,99691			
84.4 - 70.3	75,91311	0,011428	0,061956	6,021728	22,01864			
70.3 - 60.2	64,36864	0,011016	0,072972	6,8457	28,86434			
60.2 - 51.9	55,31375	0,010287	0,083259	7,43909	36,30343			
51.9 - 45.7	48,30724	0,008161	0,09142	6,757322	43,06075			
45.7 - 40.5	42,71126	0,007222	0,098641	6,763464	49,82421			
40.5 - 36.2	38,02473	0,006808	0,105449	7,161595	56,98581			
36.2 - 32.5	34,05712	0,006671	0,112121	7,835251	64,82106			
32.5 - 29.1	30,55979	0,004846	0,116966	6,342475	71,16353			
29.1 - 26.3	27,54025	0,003981	0,120947	5,781869	76,9454			
26.3 - 23.6	24,77212	0,003529	0,124476	5,699001	82,6444			
23.6 - 21.1	22,19875	0,002708	0,127184	4,879494	87,5239			
21.1 - 18.6	19,626	0,002022	0,129207	4,121422	91,64532			

ion	Micromeritics Instrument Corporation	Micromeritics Instrument Corporation	Micromeritics Instrument Corporation
Port 2	MicroActive TriStar II 3020 Page 1	MicroActive TriStar II 3020 Page 1	MicroActive TriStar II 3020 Page 1
	Serial # 727 Unit 1 Port 2	Serial # 727 Unit 1 Port 2	Serial # 727 Unit 1 Port 2
	Sample: VMgO calcined	Sample: VMgO calcined	Sample: VMgO calcined
	Operator: Ches	Operator: Ches	Operator: Ches
	Submitter: Amanda	Submitter: Amanda	Submitter: Amanda
DUT\Asenc	File: C:\TriStar II 3020\data\DUT\Asenc	File: C:\TriStar II 3020\data\DUT\Asenc	File: C:\TriStar II 3020\data\DUT\Asenc
N2	Started: 2021/10/22 Analysis at N2	Started: 2021/10/22 Analysis at N2	Started: 2021/10/22 Analysis at N2
77,350 K	Completed 2021/10/22 Analysis at 77,350 K	Completed 2021/10/22 Analysis at 77,350 K	Completed 2021/10/22 Analysis at 77,350 K
No	Report time 2021/11/03 Thermal cycle No	Report time 2021/11/03 Thermal cycle No	Report time 2021/11/03 Thermal cycle No
11,5986 cm	Sample mass 0,2027 g Ambient pressure 11,5986 cmHg	Sample mass 0,2027 g Ambient pressure 11,5986 cmHg	Sample mass 0,2027 g Ambient pressure 11,5986 cmHg
10 s	Analysis frequency 35,2593 cm Equilibration time 10 s	Analysis frequency 35,2593 cm Equilibration time 10 s	Analysis frequency 35,2593 cm Equilibration time 10 s
1,000 g/cm	Low pressure None Sample density 1,000 g/cm ³	Low pressure None Sample density 1,000 g/cm ³	Low pressure None Sample density 1,000 g/cm ³
	Automatic cycle No	Automatic cycle No	Automatic cycle No
Volume (La	BJH Desorption dV/dw Pore Volume	BJH Desorption dV/dlog(w) Pore Volume	BJH Desorption dV/dlog(w) Pore Volume
	Halsey : Faas Correction	Halsey : Faas Correction	Halsey : Faas Correction
	VMgO calcined : VMgO calcined	VMgO calcined : VMgO calcined	VMgO calcined : VMgO calcined
	Pore Width dV/dw Pore Volume (cm ³ /g·Å)	Pore Width dV/dlog(w) Pore Volume (cm ³ /g)	Pore Width dV/dlog(w) Pore Volume (cm ³ /g)
	179,4058 0,00044	179,4058 0,182716	170,5604
	151,14 0,000465	151,14 0,164946	138,7649
	128,9916 0,000463	128,9916 0,138545	121,6776
	113,4441 0,000465	113,4441 0,122331	107,2284
	92,80546 0,000538	92,80546 0,118116	84,39496
	75,91311 0,000812	75,91311 0,144299	70,3264
	64,36864 0,001089	64,36864 0,163406	60,21467

	55,31375	0,001232
	48,30724	0,001319
	42,71126	0,001393
	38,02473	0,001569
	34,05712	0,001802
	30,55979	0,001453
	27,54025	0,001423
	24,77212	0,001299
	22,19875	0,001102
	19,626	0,00078

	55,31375	0,158705
	48,30724	0,147953
	42,71126	0,137991
	38,02473	0,138314
	34,05712	0,142214
	30,55979	0,102916
	27,54025	0,090724
	24,77212	0,07461
	22,19875	0,056702
	19,626	0,035614

	51,86607
	45,68
	40,49394
	36,15507
	32,45337
	29,11901
	26,32073
	23,6044
	21,14634
	18,55473

cs Instrument Corporation
TriStar II 3(Page 1
Serial # 727 Unit 1 Port 2

VMgO calcined
Ches
Amanda
C:\TriStar II 3020\data\DUT\Asenc

2021/10/22 Analysis ac N2
2021/10/22 Analysis bε 77,350 K
2021/11/03 Thermal cc No
0,2027 g Ambient frε 11,5986 cn
35,2593 cn Equilibratio 10 s
None Sample de 1,000 g/cm
No

ption Cumulative Pore Area (Large
ias Correction

ined : VMgO calcined
Pore Area (m²/g)
1,971514
5,882836
8,334651
10,70271
15,99691
22,01864
28,86434

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asenc

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 0,2027 g Ambient frε 11,5986 cn
Analysis frε 35,2593 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Desorption dA/dw Pore Area
Halsey : Faas Correction

VMgO calcined : VMgO calcined
Pore Width dA/dw Pore Area (m²/g·Å)
179,4058 0,098058
151,14 0,123015
128,9916 0,143488
113,4441 0,163889
92,80546 0,231862
75,91311 0,428027
64,36864 0,677006

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 2

Sample: VMgO calcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Asenc

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 0,2027 g Ambient frε 11,5986 cn
Analysis frε 35,2593 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Desorption dA/dlog(w) Pore Area
Halsey : Faas Correction

VMgO calcined : VMgO calcined
Pore Width dA/dlog(w) Pore Area (m²/g)
179,4058 40,738
151,14 43,65382
128,9916 42,96237
113,4441 43,13346
92,80546 50,90903
75,91311 76,03369
64,36864 101,5441

36,30343		55,31375	0,891058		55,31375	114,7672
43,06075		48,30724	1,092347		48,30724	122,5104
49,82421		42,71126	1,30416		42,71126	129,2312
56,98581		38,02473	1,650567		38,02473	145,4993
64,82106		34,05712	2,116663		34,05712	167,0294
71,16353		30,55979	1,902156		30,55979	134,7078
76,9454		27,54025	2,066226		27,54025	131,7697
82,6444		24,77212	2,098052		24,77212	120,4737
87,5239		22,19875	1,985093		22,19875	102,1714
91,64532		19,626	1,590294		19,626	72,58506

1...VMgO calcined.SMP

^{13}C Measured

3

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient pressure 16,0139 cm
Analysis pressure 49,9845 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

Summary Report

Surface Area

Single point 5,0968 m²/g

BET Surface 5,1871 m²/g

Langmuir 5,11,6012 m²/g

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...\VMgO unc

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient pressure 16,0139 cm³ Measure
Analysis pressure 49,9845 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm³
Automatic No

Isotherm Tabular Report

Relative Pressure	Absolute Pressure	Quantity Adsorbed	Elapsed Time	Saturation
			00:38	100,5005
0,010366	1,041006	0,038628	00:45	100,4231
0,03124	3,137297	0,047868	00:48	100,4255
0,06675	6,706974	0,053964	00:51	100,4792
0,079597	8,002964	0,055479	00:53	100,5437
0,099952	10,04412	0,05758	00:55	100,4896
0,119991	12,05863	0,059454	00:58	100,496
0,140062	14,07653	0,061236	01:00	100,5022
0,160165	16,09092	0,062927	01:02	100,4646

Micromeritics Instrument Corporation
MicroActive TriStar II 3020
Serial # 727

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient pressure 16,0139 cm
Analysis pressure 49,9845 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

Isotherm Linear Plot

VMgO uncalcined : VMgO uncalcined

Relative Pressure	Absolute Pressure	Quantity Adsorbed
0,010366	1,041006	0,038628
0,03124	3,137297	0,047868
0,06675	6,706974	0,053964
0,079597	8,002964	0,055479
0,099952	10,04412	0,05758
0,119991	12,05863	0,059454
0,140062	14,07653	0,061236

t-Plot Micrc 0,8176 m ² /g	0,180068	18,09683	0,064562	01:04	100,4996	0,160165	0,062927
	0,200071	20,10943	0,066233	01:06	100,511	0,180068	0,064562
t-Plot exter 4,3695 m ² /g	0,248568	24,98356	0,070246	01:09	100,51	0,200071	0,066233
	0,299368	30,08799	0,074566	01:11	100,5051	0,248568	0,070246
BJH Adsor	0,349533	35,11383	0,078973	01:13	100,4592	0,299368	0,074566
between 174,2189 m ² /g	0,398446	40,03865	0,083526	01:16	100,4869	0,349533	0,078973
	0,448561	45,05306	0,088424	01:18	100,439	0,398446	0,083526
BJH Desor	0,498044	50,04323	0,093424	01:21	100,4796	0,448561	0,088424
between 174,6920 m ² /g	0,547991	55,05417	0,098849	01:23	100,4654	0,498044	0,093424
	0,598353	60,05645	0,104776	01:26	100,3696	0,547991	0,098849
	0,646935	64,99838	0,111232	01:28	100,4713	0,598353	0,104776
	0,697292	70,045	0,119016	01:31	100,4529	0,646935	0,111232
Pore Volume	0,747428	75,03691	0,128373	01:34	100,3935	0,697292	0,119016
	0,796208	79,95406	0,140583	01:37	100,4186	0,747428	0,128373
Single poin	0,818501	82,20197	0,14826	01:40	100,4299	0,796208	0,140583
less than 1 0,001339 cm ³ /g	0,847529	85,09474	0,161949	01:44	100,4033	0,818501	0,14826
	0,871368	87,50539	0,180579	01:49	100,423	0,847529	0,161949
Single poin	0,895125	89,89107	0,211184	01:55	100,4229	0,871368	0,180579
less than 2 0,010132 cm ³ /g	0,925191	92,93837	0,285193	02:09	100,4532	0,895125	0,211184
	0,944846	94,87179	0,372647	02:19	100,4098	0,925191	0,285193
t-Plot micrc 0,000388 cm ³ /g	0,976525	97,68474	0,69137	02:45	100,033	0,944846	0,372647
	0,981592	98,26089	0,791134	02:54	100,1036	0,976525	0,69137
BJH Adsor	0,98987	99,04236	0,875392	02:57	100,0559	0,981592	0,791134
between 170,006492 cm ³ /g	0,987899	99,01888	0,895141	02:59	100,2318	0,98987	0,875392
	0,982108	98,3971	0,864029	03:01	100,1897	0,987899	0,895141
BJH Desor	0,975423	97,67302	0,829269	03:06	100,134		
between 170,008087 cm ³ /g	0,968836	97,14614	0,7939	03:11	100,271		
	0,952272	95,29066	0,613023	03:33	100,0666		
	0,919905	92,05343	0,362558	04:00	100,0684		
	0,901497	90,17594	0,292244	04:11	100,0291		
Pore Size	0,878971	87,99555	0,23804	04:21	100,112		
	0,854779	85,6485	0,200087	04:29	100,1996		
Adsorption 10,328 Å	0,829064	83,16846	0,173678	04:35	100,3161		
	0,804378	80,67295	0,155038	04:39	100,2923		
Desorption 78,134 Å	0,753729	75,60601	0,133117	04:44	100,3092		
	0,705351	70,73312	0,121176	04:47	100,2807		
BJH Adsor 61,550 Å	0,65464	65,67219	0,11234	04:50	100,3181		

BJH Desor 68,945 Å	0,602628	60,50428	0,105282	04:53	100,4008
	0,552698	55,47384	0,099527	04:55	100,3692
	0,501984	50,41347	0,094232	04:58	100,4284
	0,452062	45,38367	0,089328	05:00	100,3925
MP-Method	0,401648	40,32909	0,084663	05:03	100,409
	0,35165	35,29344	0,080179	05:06	100,3652
	0,301141	30,23461	0,075933	05:08	100,4002
	0,251042	25,20999	0,071892	05:10	100,4213
Cumulative	0,201042	20,17442	0,067953	05:13	100,3492
13,0525 Å 0,0000 m²/g	0,140253	14,07386	0,063096	05:17	100,3459
Cumulative					
13,0525 Å 0,000000 cm³/g					
Average pc 0,0000 Å					

MicroActive TriStar II 3020
Page 1
Unit 1 Port 3

uncalcined

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Analysis at N2
Analysis at 77,350 K
Thermal cc No
Ambient fr 16,0139 cn
Equilibratio 10 s
Sample de 1,000 g/cm

VMgO uncalcined : VM
Relative Pr Quantity Ar
0,987899 0,895141
0,982108 0,864029
0,975423 0,829269
0,968836 0,7939
0,952272 0,613023
0,919905 0,362558
0,901497 0,292244

Micromeritics Instrument Corporation
MicroActive TriStar II 3020
Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient fr 16,0139 cn
Analysis fr 49,9845 cn Equilibratio 10 s
Low pressure None Sample de 1,000 g/cm
Automatic No

Isotherm Log Plot

VMgO uncalcined : VM VMgO uncalcined : VM
Relative Pr Quantity Ar Relative Pr Quantity Ar
0,010366 0,038628 0,987899 0,895141
0,03124 0,047868 0,982108 0,864029
0,06675 0,053964 0,975423 0,829269
0,079597 0,055479 0,968836 0,7939
0,099952 0,05758 0,952272 0,613023
0,119991 0,059454 0,919905 0,362558
0,140062 0,061236 0,901497 0,292244

Micromeritics Instrument Corporation
MicroActive TriStar II 3020
Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient fr 16,0139 cn
Analysis fr 49,9845 cn Equilibratio 10 s
Low pressure None Sample de 1,000 g/cm
Automatic No

BET Report

BET surface 5,1871 ± 0,0339 m²/g
Slope: 18,75385 ± 0,12126 g/mmol
Y-intercept 0,05427 ± 0,02020 g/mmol
C: 346,584037
Qm: 0,05317 mmol/g
Correlation 0,9998119
Molecular volume 0,1620 nm³

0,878971	0,23804	0,160165	0,062927	0,878971	0,23804
0,854779	0,200087	0,180068	0,064562	0,854779	0,200087
0,829064	0,173678	0,200071	0,066233	0,829064	0,173678
0,804378	0,155038	0,248568	0,070246	0,804378	0,155038
0,753729	0,133117	0,299368	0,074566	0,753729	0,133117
0,705351	0,121176	0,349533	0,078973	0,705351	0,121176
0,65464	0,11234	0,398446	0,083526	0,65464	0,11234
0,602628	0,105282	0,448561	0,088424	0,602628	0,105282
0,552698	0,099527	0,498044	0,093424	0,552698	0,099527
0,501984	0,094232	0,547991	0,098849	0,501984	0,094232
0,452062	0,089328	0,598353	0,104776	0,452062	0,089328
0,401648	0,084663	0,646935	0,111232	0,401648	0,084663
0,35165	0,080179	0,697292	0,119016	0,35165	0,080179
0,301141	0,075933	0,747428	0,128373	0,301141	0,075933
0,251042	0,071892	0,796208	0,140583	0,251042	0,071892
0,201042	0,067953	0,818501	0,14826	0,201042	0,067953
0,140253	0,063096	0,847529	0,161949	0,140253	0,063096
		0,871368	0,180579		
		0,895125	0,211184		
		0,925191	0,285193		
		0,944846	0,372647		
		0,976525	0,69137		
		0,981592	0,791134		
		0,98987	0,875392		
		0,987899	0,895141		

Relative Pr Quantity Ac 1/[Q(p°/p - 1)]

0,03124	0,047868	0,673679
0,06675	0,053964	1,325392
0,079597	0,055479	1,558788
0,099952	0,05758	1,928657
0,119991	0,059454	2,293415
0,140062	0,061236	2,659781
0,160165	0,062927	3,030663
0,180068	0,064562	3,401609
0,200071	0,066233	3,776241
0,248568	0,070246	4,70906
0,299368	0,074566	5,730289

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient pressure 16,0139 cm
Analysis pressure 49,9845 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

BET Surface Area Plot

VMgO uncalcined : VM Not Fitted
Relative Pressure 1/[Q(p°/p - Relative Pressure 1/[Q(p°/p -
0,03124 0,673679 0,010366 0,271168
0,06675 1,325392 0,349533 6,804279
0,079597 1,558788 0,398446 7,929972
0,099952 1,928657 0,448561 9,199315
0,119991 2,293415 0,498044 10,62048
0,140062 2,659781 0,547991 12,26465
0,160165 3,030663 0,598353 14,21834

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...\VMgO uncalcined.SMI

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient pressure 16,0139 cm³ Measured
Analysis pressure 49,9845 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm³
Automatic No

BJH Adsorption Pore Distribution Report

Faas Correction
Halsey
 $t = 3.54 [-5 / \ln(p/p^\circ)] ^{0.333}$

Width range 17,000 to 3 000,000 Å
Adsorbate 9,53000 Å
Density correction 0,0015468

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1

Sample:
Operator:
Submitter:
File:

Started:
Completed:
Report time:
Sample mass:
Analysis pressure:
Low pressure:
Automatic:

BJH Adsorption Pore Distribution Report

VMgO uncalcined : VM Not Fitted
Pore Width
159,0103
134,4109
113,0042
100,6024
80,88889
67,02577
56,89106

0,180068	3,401609	0,646935	16,47304
0,200071	3,776241	0,697292	19,35462
0,248568	4,70906	0,747428	23,05205
0,299368	5,730289	0,796208	27,79109
		0,818501	30,41744
		0,847529	34,32331
		0,871368	37,51329
		0,895125	40,41578
		0,925191	43,36465
		0,944846	45,97099
		0,976525	60,16946
		0,981592	67,40173
		0,98987	111,6309
		0,987899	91,20284

Fraction of 0,00

Pore Width	Average W	Increments	Cumulative	Increments	Cumulative
194.4 - 159.0	172,9401	0,001367	0,001367	0,316225	0,316225
159.0 - 134.4	144,4989	0,000833	0,0022	0,230624	0,546849
134.4 - 113.0	121,707	0,000607	0,002807	0,199339	0,746188
113.0 - 100.6	106,016	0,000337	0,003143	0,127016	0,873204
100.6 - 80.9	88,40963	0,000533	0,003677	0,24127	1,114474
80.9 - 67.0	72,51844	0,000406	0,004083	0,223882	1,338356
67.0 - 56.9	61,02838	0,000339	0,004422	0,222414	1,56077
56.9 - 49.4	52,53691	0,000282	0,004704	0,214936	1,775706
49.4 - 43.2	45,81078	0,00026	0,004964	0,227057	2,002763
43.2 - 38.2	40,31132	0,000241	0,005205	0,238678	2,241441
38.2 - 34.0	35,77674	0,000222	0,005427	0,248707	2,490149
34.0 - 30.3	31,9002	0,000221	0,005648	0,277132	2,767281
30.3 - 27.2	28,56008	0,000204	0,005852	0,285362	3,052643
27.2 - 24.3	25,58017	0,000191	0,006043	0,298439	3,351082
24.3 - 21.7	22,83636	0,00018	0,006223	0,315003	3,666085
21.7 - 19.3	20,35541	0,000155	0,006377	0,303855	3,96994
19.3 - 18.4	18,83971	6,06E-05	0,006438	0,128655	4,098596
18.4 - 17.5	17,90159	5,38E-05	0,006492	0,12028	4,218875

49,3861
43,18697
38,15566
33,96578
30,32063
27,20052
24,33878
21,69762
19,34025
18,39665
17,46555

cs Instrument Corporation
TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

VMgO uncalcined
Ches
Amanda
C:\TriStar II 3020\data\DUT\Ase...

2021/10/22 Analysis ac N2
2021/10/22 Analysis bε 77,350 K
2021/11/03 Thermal cc No
1,0000 g Ambient frε 16,0139 cn
49,9845 cn Equilibratio 10 s
None Sample de 1,000 g/cm
No

ption Cumulative Pore Volume (La
ias Correction

alcined : VMgO uncalcined
Pore Volume (cm³/g)
0,001367
0,0022
0,002807
0,003143
0,003677
0,004083
0,004422

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 1,0000 g Ambient frε 16,0139 cn
Analysis frε 49,9845 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Adsorption dV/dw Pore Volume
Halsey : Faas Correction

VMgO uncalcined : VMgO uncalcined
Pore Width dV/dw Pore Volume (cm³/g·Å)
172,9401 3,87E-05
144,4989 3,39E-05
121,707 2,83E-05
106,016 2,71E-05
88,40963 2,71E-05
72,51844 2,93E-05
61,02838 3,35E-05

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 1,0000 g Ambient frε 16,0139 cn
Analysis frε 49,9845 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Adsorption dV/dlog(w) Pore Volume
Halsey : Faas Correction

VMgO uncalcined : VMgO uncalcined
Pore Width dV/dlog(w) Pore Volume (cm³/g)
172,9401 0,015675
144,4989 0,011414
121,707 0,00805
106,016 0,006668
88,40963 0,00563
72,51844 0,004971
61,02838 0,004766

0,004704		52,53691	3,76E-05		52,53691	0,004595
0,004964		45,81078	4,19E-05		45,81078	0,004464
0,005205		40,31132	4,78E-05		40,31132	0,004471
0,005427		35,77674	5,31E-05		35,77674	0,004403
0,005648		31,9002	6,06E-05		31,9002	0,004483
0,005852		28,56008	6,53E-05		28,56008	0,00432
0,006043		25,58017	6,67E-05		25,58017	0,003953
0,006223		22,83636	6,81E-05		22,83636	0,003605
0,006377		20,35541	6,56E-05		20,35541	0,003096
0,006438		18,83971	6,42E-05		18,83971	0,002789
0,006492		17,90159	5,78E-05		17,90159	0,002386

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient pressure 16,0139 cm
Analysis pressure 49,9845 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

BJH Adsorption Cumulative Pore Area (Large
Halsey : Faas Correction

VMgO uncalcined : VMgO uncalcined
Pore Width Pore Area (m²/g)
159,0103 0,316225
134,4109 0,546849
113,0042 0,746188
100,6024 0,873204
80,88889 1,114474
67,02577 1,338356
56,89106 1,56077

Micromeritics Instrument Corporation
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient pressure 16,0139 cm
Analysis pressure 49,9845 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

BJH Adsorption dA/dw Pore Area
Halsey : Faas Correction

VMgO uncalcined : VMgO uncalcined
Pore Width dA/dw Pore Area (m²/g·Å)
172,9401 0,008941
144,4989 0,009375
121,707 0,009312
106,016 0,010242
88,40963 0,012239
72,51844 0,016149
61,02838 0,021946

Micromeritics Instrume
MicroActive TriStar II 3 (Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient pressure 16,0139 cm
Analysis pressure 49,9845 cm Equilibration 10 s
Low pressure None Sample density 1,000 g/cm
Automatic No

BJH Adsorption dA/dlog(w)
Halsey : Faas Correction

VMgO uncalcined : VMgO uncalcined
Pore Width dA/dlog(w)
172,9401 3,625618
144,4989 3,159633
121,707 2,645857
106,016 2,515848
88,40963 2,547212
72,51844 2,742072
61,02838 3,123891

49,3861	1,775706
43,18697	2,002763
38,15566	2,241441
33,96578	2,490149
30,32063	2,767281
27,20052	3,052643
24,33878	3,351082
21,69762	3,666085
19,34025	3,96994
18,39665	4,098596
17,46555	4,218875

52,53691	0,028639
45,81078	0,036627
40,31132	0,047439
35,77674	0,059359
31,9002	0,076028
28,56008	0,091459
25,58017	0,104286
22,83636	0,119267
20,35541	0,128896
18,83971	0,136346
17,90159	0,12918

52,53691	3,49835
45,81078	3,897836
40,31132	4,43691
35,77674	4,923216
31,9002	5,620948
28,56008	6,050811
25,58017	6,181618
22,83636	6,314359
20,35541	6,083197
18,83971	5,922466
17,90159	5,332369

MicroActive TriStar II 3020
Page 1
Unit 1 Port 3

uncalcined

I 3020\data\DUT\Ase...

Analysis at N2
Analysis at 77,350 K
Thermal cc No
Ambient fr 16,0139 cm
Equilibratio 10 s
Sample de 1,000 g/cm

g(w) Pore Area
on

VMgO uncalcined
Pore Area (m²/g)

Micromeritics Instrument Corporation
MicroActive TriStar II 3020
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...\VMgO uncalcined.SMI

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient fr 16,0139 cm³ Measured
Analysis fr 49,9845 cm Equilibratio 10 s
Low pressure None Sample de 1,000 g/cm³
Automatic No

BJH Desorption Pore Distribution Report

Faas Correction
Halsey
 $t = 3.54 [-5 / \ln(p/p^0)] ^{0.333}$

Width range 17,000 to 3 000,000 Å
Adsorbate 9,53000 Å
Density correction 0,0015468

Micromeritics Instrument Corporation
MicroActive TriStar II 3020
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\

Started: 2021/10/22 Analysis at N2
Completed 2021/10/22 Analysis at 77,350 K
Report time 2021/11/03 Thermal cc No
Sample mass 1,0000 g Ambient fr 16,0139 cm³ Measured
Analysis fr 49,9845 cm Equilibratio 10 s
Low pressure None Sample de 1,000 g/cm³
Automatic No

BJH Desorption Cumulative Pore Volume
Halsey : Faas Correction

VMgO uncalcined : VMgO uncalcined
Pore Width Pore Volume (cm³/g)
143,8894 0,001798
122,8067 0,003061
107,6619 0,003959
85,84446 0,005005
71,7832 0,005548
61,09391 0,005936
52,81083 0,006238

Fraction of 0,00						46,54516	0,006483
						41,35276	0,006713
						37,07357	0,006934
						33,37127	0,007148
						30,16078	0,00736
Pore Width Average W						27,26779	0,007556
Increments Cumulative						24,65419	0,007736
171.7 - 143	155,1213	0,001798	0,001798	0,463637	0,463637	22,21898	0,007902
143.9 - 122	131,5112	0,001263	0,003061	0,384228	0,847865	19,36706	0,008087
122.8 - 107	114,1232	0,000897	0,003959	0,3145	1,162364		
107.7 - 85	93,99945	0,001047	0,005005	0,445452	1,607816		
85.8 - 71.8	77,37472	0,000543	0,005548	0,280588	1,888405		
71.8 - 61.1	65,43283	0,000388	0,005936	0,236896	2,125301		
61.1 - 52.8	56,23443	0,000302	0,006238	0,214744	2,340044		
52.8 - 46.5	49,19813	0,000245	0,006483	0,199517	2,539562		
46.5 - 41.4	43,57	0,00023	0,006713	0,211604	2,751166		
41.4 - 37.1	38,91976	0,000221	0,006934	0,226842	2,978007		
37.1 - 33.4	34,97379	0,000214	0,007148	0,244904	3,222911		
33.4 - 30.2	31,55515	0,000212	0,00736	0,268534	3,491445		
30.2 - 27.3	28,52155	0,000196	0,007556	0,274336	3,765782		
27.3 - 24.7	25,7838	0,00018	0,007736	0,279698	4,04548		
24.7 - 22.2	23,2629	0,000166	0,007902	0,284811	4,330291		
22.2 - 19.4	20,5192	0,000186	0,008087	0,361687	4,691977		

ion	Micromeritics Instrument Corporation	Micromeritics Instrument Corporation	Micromeritics Instrument Corporation
Port 3	MicroActive TriStar II 3020 Page 1	MicroActive TriStar II 3020 Page 1	MicroActive TriStar II 3020 Page 1
	Serial # 727 Unit 1 Port 3	Serial # 727 Unit 1 Port 3	Serial # 727 Unit 1 Port 3
	Sample: VMgO uncalcined	Sample: VMgO uncalcined	Sample: VMgO uncalcined
	Operator: Ches	Operator: Ches	Operator: Ches
	Submitter: Amanda	Submitter: Amanda	Submitter: Amanda
DUT\Ase...	File: C:\TriStar II 3020\data\DUT\Ase...	File: C:\TriStar II 3020\data\DUT\Ase...	File: C:\TriStar II 3020\data\DUT\Ase...
N2	Started: 2021/10/22 Analysis at N2	Started: 2021/10/22 Analysis at N2	Started: 2021/10/22 Analysis at N2
77,350 K	Completed 2021/10/22 Analysis at 77,350 K	Completed 2021/10/22 Analysis at 77,350 K	Completed 2021/10/22 Analysis at 77,350 K
No	Report time 2021/11/03 Thermal cycle No	Report time 2021/11/03 Thermal cycle No	Report time 2021/11/03 Thermal cycle No
16,0139 cm	Sample mass 1,0000 g Ambient pressure 16,0139 cmHg	Sample mass 1,0000 g Ambient pressure 16,0139 cmHg	Sample mass 1,0000 g Ambient pressure 16,0139 cmHg
10 s	Analysis frequency 49,9845 cm Equilibration time 10 s	Analysis frequency 49,9845 cm Equilibration time 10 s	Analysis frequency 49,9845 cm Equilibration time 10 s
1,000 g/cm	Low pressure None Sample density 1,000 g/cm³	Low pressure None Sample density 1,000 g/cm³	Low pressure None Sample density 1,000 g/cm³
	Automatic cycle No	Automatic cycle No	Automatic cycle No
Volume (L)	BJH Desorption dV/dw Pore Volume	BJH Desorption dV/dlog(w) Pore Volume	BJH Desorption dV/dw Pore Volume
	Halsey : Faas Correction	Halsey : Faas Correction	Halsey : Faas Correction
ned	VMgO uncalcined : VMgO uncalcined	VMgO uncalcined : VMgO uncalcined	VMgO uncalcined : VMgO uncalcined
	Pore Width dV/dw Pore Volume (cm³/g·Å)	Pore Width dV/dlog(w) Pore Volume (cm³/g)	Pore Width dV/dw Pore Volume (cm³/g·Å)
	155,1213 6,47E-05	155,1213 0,023445	155,1213 6,47E-05
	131,5112 5,99E-05	131,5112 0,018359	131,5112 5,99E-05
	114,1232 5,92E-05	114,1232 0,015698	114,1232 5,92E-05
	93,99945 4,8E-05	93,99945 0,010644	93,99945 4,8E-05
	77,37472 3,86E-05	77,37472 0,006986	77,37472 3,86E-05
	65,43283 3,63E-05	65,43283 0,005534	65,43283 3,63E-05
	56,23443 3,64E-05	56,23443 0,004771	56,23443 3,64E-05

49,19813	3,92E-05
43,57	4,44E-05
38,91976	5,16E-05
34,97379	5,78E-05
31,55515	6,6E-05
28,52155	6,76E-05
25,7838	6,9E-05
23,2629	6,8E-05
20,5192	6,51E-05

49,19813	0,004474
43,57	0,004487
38,91976	0,004653
34,97379	0,004686
31,55515	0,004822
28,52155	0,004467
25,7838	0,00412
23,2629	0,003667
20,5192	0,00311

46,54516
41,35276
37,07357
33,37127
30,16078
27,26779
24,65419
22,21898
19,36706

cs Instrument Corporation
TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

VMgO uncalcined
Ches
Amanda
C:\TriStar II 3020\data\DUT\Ase...

2021/10/22 Analysis ac N2
2021/10/22 Analysis bε 77,350 K
2021/11/03 Thermal cc No
1,0000 g Ambient frε 16,0139 cn
49,9845 cn Equilibratio 10 s
None Sample de 1,000 g/cm
No

ption Cumulative Pore Area (Large
ias Correction

alcined : VMgO uncalcined
Pore Area (m²/g)
0,463637
0,847865
1,162364
1,607816
1,888405
2,125301
2,340044

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 1,0000 g Ambient frε 16,0139 cn
Analysis frε 49,9845 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Desorption dA/dw Pore Area
Halsey : Faas Correction

VMgO uncalcined : VMgO uncalcined
Pore Width dA/dw Pore Area (m²/g·Å)
155,1213 0,016684
131,5112 0,018225
114,1232 0,020766
93,99945 0,020417
77,37472 0,019955
65,43283 0,022162
56,23443 0,025926

Micromeritics Instrument Corporation
MicroActive TriStar II 3(Page 1
Serial # 727 Unit 1 Port 3

Sample: VMgO uncalcined
Operator: Ches
Submitter: Amanda
File: C:\TriStar II 3020\data\DUT\Ase...

Started: 2021/10/22 Analysis ac N2
Completed 2021/10/22 Analysis bε 77,350 K
Report timε 2021/11/03 Thermal cc No
Sample mε 1,0000 g Ambient frε 16,0139 cn
Analysis frε 49,9845 cn Equilibratio 10 s
Low pressε None Sample de 1,000 g/cm
Automatic ε No

BJH Desorption dA/dlog(w) Pore Area
Halsey : Faas Correction

VMgO uncalcined : VMgO uncalcined
Pore Width dA/dlog(w) Pore Area (m²/g)
155,1213 6,045636
131,5112 5,58415
114,1232 5,502114
93,99945 4,529258
77,37472 3,611665
65,43283 3,383026
56,23443 3,393822

2,539562		49,19813	0,031843		49,19813	3,637616
2,751166		43,57	0,040753		43,57	4,119205
2,978007		38,91976	0,05301		38,91976	4,78165
3,222911		34,97379	0,066149		34,97379	5,359911
3,491445		31,55515	0,083643		31,55515	6,112751
3,765782		28,52155	0,094828		28,52155	6,264448
4,04548		25,7838	0,107016		25,7838	6,391757
4,330291		23,2629	0,116955		23,2629	6,305787
4,691977		20,5192	0,126822		20,5192	6,062421

\VMgO uncalcined.SMP

δ^{13} Measured

3

Title

16.11.2021 13:51

Title

Evaluation Categories:

Curve Name:

MgO Calcined_16 Nov, 16.11.2021 08:46:28

Performed 16.11.2021 08:46:28

Sample Weight

Curve Values:

Index	t [s]	Ts [°C]	Tr [°C]	Value [mg]
0	0	28.5559	25	2.44017
47	47	35.3439	32.8333	2.46022
94	94	44.54	40.6667	2.46315
141	141	53.6455	48.5	2.4599
188	188	62.2199	56.3333	2.46055
235	235	70.6171	64.1667	2.46157
282	282	78.9139	72	2.462
329	329	87.1939	79.8333	2.46111
376	376	95.4629	87.6667	2.45917
423	423	103.724	95.5	2.45555
470	470	111.966	103.333	2.45016
517	517	120.235	111.167	2.44365
564	564	128.469	119	2.4376
611	611	136.735	126.833	2.43248
658	658	144.958	134.667	2.42867
705	705	153.188	142.5	2.427
752	752	161.415	150.333	2.42635
799	799	169.614	158.167	2.42628
846	846	177.788	166	2.42691
893	893	185.954	173.833	2.42811
940	940	194.111	181.667	2.42929
987	987	202.275	189.5	2.431
1034	1034	210.402	197.333	2.43297
1081	1081	218.526	205.167	2.43496
1128	1128	226.64	213	2.43686
1175	1175	234.719	220.833	2.43886
1222	1222	242.794	228.667	2.44082
1269	1269	250.853	236.5	2.44232
1316	1316	258.9	244.333	2.44329
1363	1363	266.949	252.167	2.444
1410	1410	274.969	260	2.4438
1457	1457	282.962	267.833	2.44219
1504	1504	290.95	275.667	2.4393
1551	1551	298.932	283.5	2.43482
1598	1598	306.893	291.333	2.42751
1645	1645	314.842	299.167	2.41651
1692	1692	322.768	307	2.40002

1739	1739	330.669	314.833	2.37752
1786	1786	338.595	322.667	2.35112
1833	1833	346.493	330.5	2.32514
1880	1880	354.434	338.333	2.30634
1927	1927	362.349	346.167	2.2969
1974	1974	370.248	354	2.29485
2021	2021	378.116	361.833	2.29548
2068	2068	385.972	369.667	2.29662
2115	2115	393.802	377.5	2.29776
2162	2162	401.623	385.333	2.29908
2209	2209	409.432	393.167	2.30034
2256	2256	417.252	401	2.30234
2303	2303	425.154	408.833	2.30385
2350	2350	433.014	416.667	2.3054
2397	2397	440.791	424.5	2.307
2444	2444	448.571	432.333	2.30816
2491	2491	456.337	440.167	2.30913
2538	2538	464.091	448	2.31061
2585	2585	471.835	455.833	2.31155
2632	2632	479.581	463.667	2.31288
2679	2679	487.313	471.5	2.31422
2726	2726	495.037	479.333	2.31484
2773	2773	502.762	487.167	2.31545
2820	2820	510.494	495	2.31601
2867	2867	518.206	502.833	2.31737
2914	2914	525.912	510.667	2.31723
2961	2961	533.627	518.5	2.31809
3008	3008	541.311	526.333	2.31759
3055	3055	549.026	534.167	2.31801
3102	3102	556.711	542	2.31826
3149	3149	564.403	549.833	2.31901
3196	3196	572.087	557.667	2.31928
3243	3243	579.782	565.5	2.32036
3290	3290	587.467	573.333	2.32117
3337	3337	595.149	581.167	2.32221
3384	3384	602.831	589	2.32272
3431	3431	610.519	596.833	2.32325
3478	3478	618.215	604.667	2.32461
3525	3525	625.888	612.5	2.32521
3572	3572	633.564	620.333	2.3248
3619	3619	641.259	628.167	2.326
3666	3666	648.935	636	2.32609
3713	3713	656.614	643.833	2.32659
3760	3760	664.285	651.667	2.32669
3807	3807	671.961	659.5	2.32696
3854	3854	679.674	667.333	2.32716
3901	3901	687.36	675.167	2.32648
3948	3948	695.041	683	2.32611
3995	3995	702.765	690.833	2.32637
4042	4042	710.473	698.667	2.32615

4089	4089	718.186	706.5	2.32612
4136	4136	725.89	714.333	2.32559
4183	4183	733.605	722.167	2.32531
4230	4230	741.32	730	2.32524
4277	4277	749.052	737.833	2.32459
4324	4324	756.774	745.667	2.32417
4371	4371	764.502	753.5	2.3239
4418	4418	772.231	761.333	2.32294
4465	4465	779.99	769.167	2.32355
4512	4512	787.748	777	2.32361
4559	4559	795.493	784.833	2.32308
4606	4606	803.245	792.667	2.32207

Results:

Step -1.47 %
-35.75e-03 mg

Step -6.04 %
-0.15 mg

Texts:

MgO Calcined_16 Nov, 16.11.2021 08:46:28
Sample Weight
MgO Calcined_16 Nov, 2.4400 mg

Sample:

MgO Calcined_16 Nov, 2.4400 mg
Sample Remarks:

Experiment Comments:

-

Curve Categories:

Evaluation:

Method:

MgO Calcined_16 nov

Adjustment:

From 0.00 to 77.50 min

Gas Factor : 1

Tau Lag : $64.5380 - 0.1070 \cdot T + 51.6880e-06 \cdot T^2$ s
adjusted : (-)

Sample Temperature:

TGA/SF SDTA FRS2

Tc : 25.00 °C

dTs(T) : $0.0000 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

Tau Lag: $3.9952 + 2.7766e-03 \cdot T - 286.8100e-09 \cdot T^2$ s

E Nominal:

a b c Temp.

29.988 -0.025285 6.2722e-006 1600.0
dE : 16.3535 + 0.0000*T + 0.0000*T^2 °C

E Indium : 42.5357 1/mW
dE relative : 16.3535 + 0.0000*T + 0.0000*T^2
adjusted : (28.05.2021 10:36:33)

Balance:

Type : MX1/XP1

adjusted: -

Sample Holder:

Alumina 70ul

Weight : 0

Material: Ceramic

Order Number:

Customer:

User:

METTLER

Curve Name:

!MgO Calcined_16 Nov

Sample Weight

Curve Values:

Index	t [s]	Ts [°C]	Tr [°C]	Value [%]
0	0	28.5559	25	100.007
47	47	35.3439	32.8333	100.828
94	94	44.54	40.6667	100.949
141	141	53.6455	48.5	100.815
188	188	62.2199	56.3333	100.842
235	235	70.6171	64.1667	100.884
282	282	78.9139	72	100.902
329	329	87.1939	79.8333	100.865
376	376	95.4629	87.6667	100.786
423	423	103.724	95.5	100.637
470	470	111.966	103.333	100.416
517	517	120.235	111.167	100.15
564	564	128.469	119	99.9016
611	611	136.735	126.833	99.6919
658	658	144.958	134.667	99.5356
705	705	153.188	142.5	99.4673
752	752	161.415	150.333	99.4404
799	799	169.614	158.167	99.4377
846	846	177.788	166	99.4634
893	893	185.954	173.833	99.5128
940	940	194.111	181.667	99.5609

987	987	202.275	189.5	99.6311
1034	1034	210.402	197.333	99.712
1081	1081	218.526	205.167	99.7934
1128	1128	226.64	213	99.8711
1175	1175	234.719	220.833	99.9532
1222	1222	242.794	228.667	100.033
1269	1269	250.853	236.5	100.095
1316	1316	258.9	244.333	100.135
1363	1363	266.949	252.167	100.164
1410	1410	274.969	260	100.156
1457	1457	282.962	267.833	100.09
1504	1504	290.95	275.667	99.9711
1551	1551	298.932	283.5	99.7876
1598	1598	306.893	291.333	99.4879
1645	1645	314.842	299.167	99.0372
1692	1692	322.768	307	98.3613
1739	1739	330.669	314.833	97.4393
1786	1786	338.595	322.667	96.3576
1833	1833	346.493	330.5	95.2925
1880	1880	354.434	338.333	94.5223
1927	1927	362.349	346.167	94.1352
1974	1974	370.248	354	94.0514
2021	2021	378.116	361.833	94.077
2068	2068	385.972	369.667	94.1237
2115	2115	393.802	377.5	94.1704
2162	2162	401.623	385.333	94.2244
2209	2209	409.432	393.167	94.2763
2256	2256	417.252	401	94.3581
2303	2303	425.154	408.833	94.4202
2350	2350	433.014	416.667	94.4837
2397	2397	440.791	424.5	94.549
2444	2444	448.571	432.333	94.5967
2491	2491	456.337	440.167	94.6365
2538	2538	464.091	448	94.6972
2585	2585	471.835	455.833	94.7358
2632	2632	479.581	463.667	94.79
2679	2679	487.313	471.5	94.8453
2726	2726	495.037	479.333	94.8707
2773	2773	502.762	487.167	94.8956
2820	2820	510.494	495	94.9186
2867	2867	518.206	502.833	94.9741
2914	2914	525.912	510.667	94.9683
2961	2961	533.627	518.5	95.0038
3008	3008	541.311	526.333	94.9832
3055	3055	549.026	534.167	95.0003
3102	3102	556.711	542	95.0108
3149	3149	564.403	549.833	95.0413
3196	3196	572.087	557.667	95.0524
3243	3243	579.782	565.5	95.0966
3290	3290	587.467	573.333	95.1301

3337	3337	595.149	581.167	95.1725
3384	3384	602.831	589	95.1935
3431	3431	610.519	596.833	95.2151
3478	3478	618.215	604.667	95.2708
3525	3525	625.888	612.5	95.2954
3572	3572	633.564	620.333	95.2789
3619	3619	641.259	628.167	95.3279
3666	3666	648.935	636	95.3316
3713	3713	656.614	643.833	95.352
3760	3760	664.285	651.667	95.3561
3807	3807	671.961	659.5	95.3671
3854	3854	679.674	667.333	95.3754
3901	3901	687.36	675.167	95.3476
3948	3948	695.041	683	95.3324
3995	3995	702.765	690.833	95.343
4042	4042	710.473	698.667	95.334
4089	4089	718.186	706.5	95.3329
4136	4136	725.89	714.333	95.3111
4183	4183	733.605	722.167	95.2994
4230	4230	741.32	730	95.2967
4277	4277	749.052	737.833	95.2703
4324	4324	756.774	745.667	95.2531
4371	4371	764.502	753.5	95.2418
4418	4418	772.231	761.333	95.2024
4465	4465	779.99	769.167	95.2276
4512	4512	787.748	777	95.23
4559	4559	795.493	784.833	95.2081
4606	4606	803.245	792.667	95.167

Results:

Texts:

!MgO Calcined_16 Nov

Sample Weight

MgO Calcined_16 Nov, 2.4400 mg

Sample:

MgO Calcined_16 Nov, 2.4400 mg

Sample Remarks:

Experiment Comments:

-

Curve Categories:

Evaluation:

Method:

MgO Calcined_16 nov

Adjustment:

From 0.00 to 77.50 min

Gas Factor : 1
Tau Lag : $64.5380 - 0.1070 \cdot T + 51.6880 \cdot 10^{-6} \cdot T^2$ s
adjusted : (-)

Sample Temperature:

TGA/SF SDTA FRS2

Tc : 25.00 °C

dTs(T) : $0.0000 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

Tau Lag: $3.9952 + 2.7766 \cdot 10^{-3} \cdot T - 286.8100 \cdot 10^{-9} \cdot T^2$ s

E Nominal:

	a	b	c	Temp.
	29.988	-0.025285	6.2722e-006	1600.0

dE : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

E Indium : 42.5357 1/mW

dE relative : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$

adjusted : (28.05.2021 10:36:33)

Balance:

Type : MX1/XP1

adjusted: -

Sample Holder:

Alumina 70ul

Weight : 0

Material: Ceramic

Order Number:

Customer:

User:

METTLER

Not signed

STARe SW 11.00

Title

16.11.2021 14:07

Title

Evaluation Categories:

Curve Name:

MgO Uncalcined_16 Nov, 16.11.2021 10:55:35

Sample Weight

Curve Values:

Index	t [s]	Ts [°C]	Tr [°C]	Value [mg]
0	0	28.4351	25	2.23838
47	47	35.5047	32.8333	2.25495
94	94	44.822	40.6667	2.25369
141	141	53.7913	48.5	2.24741
188	188	62.3231	56.3333	2.2451
235	235	70.6771	64.1667	2.24371
282	282	78.9897	72	2.24166
329	329	87.2677	79.8333	2.23888
376	376	95.5302	87.6667	2.2358
423	423	103.805	95.5	2.23191
470	470	112.053	103.333	2.228
517	517	120.304	111.167	2.22283
564	564	128.55	119	2.21741
611	611	136.783	126.833	2.21206
658	658	145.026	134.667	2.20705
705	705	153.259	142.5	2.20278
752	752	161.465	150.333	2.19975
799	799	169.661	158.167	2.19713
846	846	177.847	166	2.19538
893	893	186	173.833	2.1937
940	940	194.163	181.667	2.19271
987	987	202.311	189.5	2.19171
1034	1034	210.456	197.333	2.19071
1081	1081	218.599	205.167	2.18977
1128	1128	226.748	213	2.18953
1175	1175	234.87	220.833	2.18871
1222	1222	242.946	228.667	2.18771
1269	1269	251.005	236.5	2.186
1316	1316	259.053	244.333	2.18422
1363	1363	267.087	252.167	2.1812
1410	1410	275.112	260	2.17647
1457	1457	283.11	267.833	2.16993
1504	1504	291.106	275.667	2.16163
1551	1551	299.09	283.5	2.15208
1598	1598	307.061	291.333	2.14135
1645	1645	315.026	299.167	2.12953
1692	1692	322.968	307	2.11677
1739	1739	330.913	314.833	2.10323

1786	1786	338.841	322.667	2.08786
1833	1833	346.771	330.5	2.07129
1880	1880	354.675	338.333	2.05701
1927	1927	362.576	346.167	2.04852
1974	1974	370.463	354	2.04472
2021	2021	378.324	361.833	2.0431
2068	2068	386.177	369.667	2.04171
2115	2115	394.028	377.5	2.04056
2162	2162	401.853	385.333	2.0392
2209	2209	409.671	393.167	2.0381
2256	2256	417.473	401	2.0373
2303	2303	425.263	408.833	2.03599
2350	2350	433.049	416.667	2.03556
2397	2397	440.844	424.5	2.03471
2444	2444	448.592	432.333	2.03371
2491	2491	456.357	440.167	2.03271
2538	2538	464.112	448	2.03153
2585	2585	471.866	455.833	2.031
2632	2632	479.606	463.667	2.02951
2679	2679	487.345	471.5	2.02845
2726	2726	495.069	479.333	2.02716
2773	2773	502.784	487.167	2.02541
2820	2820	510.525	495	2.02448
2867	2867	518.224	502.833	2.02261
2914	2914	525.935	510.667	2.02113
2961	2961	533.619	518.5	2.01915
3008	3008	541.318	526.333	2.01771
3055	3055	549.024	534.167	2.01578
3102	3102	556.722	542	2.01386
3149	3149	564.422	549.833	2.01284
3196	3196	572.111	557.667	2.01141
3243	3243	579.791	565.5	2.0107
3290	3290	587.468	573.333	2.00972
3337	3337	595.155	581.167	2.00847
3384	3384	602.827	589	2.00824
3431	3431	610.514	596.833	2.00763
3478	3478	618.209	604.667	2.00686
3525	3525	625.892	612.5	2.00645
3572	3572	633.559	620.333	2.00571
3619	3619	641.245	628.167	2.00433
3666	3666	648.933	636	2.00362
3713	3713	656.613	643.833	2.00336
3760	3760	664.285	651.667	2.00215
3807	3807	671.974	659.5	2.00065
3854	3854	679.68	667.333	1.99954
3901	3901	687.368	675.167	1.99847
3948	3948	695.062	683	1.9974
3995	3995	702.781	690.833	1.99576
4042	4042	710.486	698.667	1.99549
4089	4089	718.19	706.5	1.9937

4136	4136	725.918	714.333	1.99274
4183	4183	733.643	722.167	1.99147
4230	4230	741.371	730	1.99068
4277	4277	749.113	737.833	1.98885
4324	4324	756.843	745.667	1.98736
4371	4371	764.59	753.5	1.98653
4418	4418	772.326	761.333	1.98523
4465	4465	780.071	769.167	1.98345
4512	4512	787.823	777	1.98272
4559	4559	795.59	784.833	1.98134
4606	4606	803.36	792.667	1.98028

Results:

Step -6.49 %
-0.15 mg

Texts:

MgO Uncalcined_16 Nov, 16.11.2021 10:55:35
Sample Weight
MgO Uncalcined_16 Nov, 2.2380 mg

Sample:

MgO Uncalcined_16 Nov, 2.2380 mg
Sample Remarks:

Experiment Comments:

-

Curve Categories:

Evaluation:

Method:

MgO Uncalcined_16 nov

Adjustment:

From 0.00 to 77.50 min

Gas Factor : 1

Tau Lag : $64.5380 - 0.1070 \cdot T + 51.6880 \cdot 10^{-6} \cdot T^2$ s

adjusted : (-)

Sample Temperature:

TGA/SF SDTA FRS2

Tc : 25.00 °C

dTs(T) : $0.0000 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

Tau Lag: $3.9952 + 2.7766 \cdot 10^{-3} \cdot T - 286.8100 \cdot 10^{-9} \cdot T^2$ s

E Nominal:

	a	b	c	Temp.
	29.988	-0.025285	6.2722e-006	1600.0
dE :	$16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C			

E Indium : 42.5357 1/mW

dE relative : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$
adjusted : (28.05.2021 10:36:33)

Balance:

Type : MX1/XP1

adjusted: -

Sample Holder:

Alumina 70ul

Weight : 0

Material: Ceramic

Order Number:

Customer:

User:

METTLER

Curve Name:

!MgO Uncalcined_16 Nov

Sample Weight

Curve Values:

Index	t [s]	Ts [°C]	Tr [°C]	Value [%]
0	0	28.4351	25	100.017
47	47	35.5047	32.8333	100.757
94	94	44.822	40.6667	100.701
141	141	53.7913	48.5	100.42
188	188	62.3231	56.3333	100.317
235	235	70.6771	64.1667	100.255
282	282	78.9897	72	100.164
329	329	87.2677	79.8333	100.04
376	376	95.5302	87.6667	99.9015
423	423	103.805	95.5	99.7277
470	470	112.053	103.333	99.5533
517	517	120.304	111.167	99.3223
564	564	128.55	119	99.0798
611	611	136.783	126.833	98.8411
658	658	145.026	134.667	98.6171
705	705	153.259	142.5	98.4261
752	752	161.465	150.333	98.2909
799	799	169.661	158.167	98.174
846	846	177.847	166	98.0956
893	893	186	173.833	98.0204
940	940	194.163	181.667	97.9765
987	987	202.311	189.5	97.9318
1034	1034	210.456	197.333	97.8872
1081	1081	218.599	205.167	97.845
1128	1128	226.748	213	97.8343

1175	1175	234.87	220.833	97.7978
1222	1222	242.946	228.667	97.7531
1269	1269	251.005	236.5	97.6765
1316	1316	259.053	244.333	97.5968
1363	1363	267.087	252.167	97.4622
1410	1410	275.112	260	97.2505
1457	1457	283.11	267.833	96.9585
1504	1504	291.106	275.667	96.5876
1551	1551	299.09	283.5	96.1607
1598	1598	307.061	291.333	95.6815
1645	1645	315.026	299.167	95.1535
1692	1692	322.968	307	94.5831
1739	1739	330.913	314.833	93.9781
1786	1786	338.841	322.667	93.2913
1833	1833	346.771	330.5	92.5511
1880	1880	354.675	338.333	91.9127
1927	1927	362.576	346.167	91.5337
1974	1974	370.463	354	91.3638
2021	2021	378.324	361.833	91.2914
2068	2068	386.177	369.667	91.2294
2115	2115	394.028	377.5	91.178
2162	2162	401.853	385.333	91.117
2209	2209	409.671	393.167	91.068
2256	2256	417.473	401	91.0321
2303	2303	425.263	408.833	90.9737
2350	2350	433.049	416.667	90.9545
2397	2397	440.844	424.5	90.9166
2444	2444	448.592	432.333	90.872
2491	2491	456.357	440.167	90.8273
2538	2538	464.112	448	90.7742
2585	2585	471.866	455.833	90.7509
2632	2632	479.606	463.667	90.684
2679	2679	487.345	471.5	90.6365
2726	2726	495.069	479.333	90.5791
2773	2773	502.784	487.167	90.5007
2820	2820	510.525	495	90.4594
2867	2867	518.224	502.833	90.3758
2914	2914	525.935	510.667	90.3097
2961	2961	533.619	518.5	90.2213
3008	3008	541.318	526.333	90.1567
3055	3055	549.024	534.167	90.0706
3102	3102	556.722	542	89.9849
3149	3149	564.422	549.833	89.9394
3196	3196	572.111	557.667	89.8755
3243	3243	579.791	565.5	89.8434
3290	3290	587.468	573.333	89.7998
3337	3337	595.155	581.167	89.7439
3384	3384	602.827	589	89.7336
3431	3431	610.514	596.833	89.7065
3478	3478	618.209	604.667	89.6721

3525	3525	625.892	612.5	89.6537
3572	3572	633.559	620.333	89.6207
3619	3619	641.245	628.167	89.5591
3666	3666	648.933	636	89.5274
3713	3713	656.613	643.833	89.5158
3760	3760	664.285	651.667	89.4618
3807	3807	671.974	659.5	89.3948
3854	3854	679.68	667.333	89.3449
3901	3901	687.368	675.167	89.2973
3948	3948	695.062	683	89.2493
3995	3995	702.781	690.833	89.1762
4042	4042	710.486	698.667	89.1641
4089	4089	718.19	706.5	89.0838
4136	4136	725.918	714.333	89.0411
4183	4183	733.643	722.167	88.9843
4230	4230	741.371	730	88.9489
4277	4277	749.113	737.833	88.8674
4324	4324	756.843	745.667	88.8009
4371	4371	764.59	753.5	88.7635
4418	4418	772.326	761.333	88.7053
4465	4465	780.071	769.167	88.6259
4512	4512	787.823	777	88.5933
4559	4559	795.59	784.833	88.5318
4606	4606	803.36	792.667	88.4845

Results:

Texts:

!MgO Uncalcined_16 Nov

Sample Weight

MgO Uncalcined_16 Nov, 2.2380 mg

Sample:

MgO Uncalcined_16 Nov, 2.2380 mg

Sample Remarks:

Experiment Comments:

-

Curve Categories:

Evaluation:

Method:

MgO Uncalcined_16 nov

Adjustment:

From 0.00 to 77.50 min

Gas Factor : 1

Tau Lag : 64.5380 - 0.1070*T + 51.6880e-06*T^2 s

adjusted : (-)

Sample Temperature:

TGA/SF SDTA FRS2

Tc : 25.00 °C

dTs(T) : $0.0000 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

Tau Lag: $3.9952 + 2.7766 \cdot 10^{-3} \cdot T - 286.8100 \cdot 10^{-9} \cdot T^2$ s

E Nominal:

	a	b	c	Temp.
	29.988	-0.025285	6.2722e-006	1600.0

dE : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

E Indium : 42.5357 1/mW

dE relative : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$

adjusted : (28.05.2021 10:36:33)

Balance:

Type : MX1/XP1

adjusted: -

Sample Holder:

Alumina 70ul

Weight : 0

Material: Ceramic

Order Number:

Customer:

User:

METTLER

Not signed

STARe SW 11.00

Title

16.11.2021 13:53

Title

Evaluation Categories:

Curve Name:

VMgO Calcined_16 Nov, 16.11.2021 12:53:57

Performed 16.11.2021 12:53:57

Sample Weight

Curve Values:

Index	t [s]	Ts [°C]	Tr [°C]	Value [mg]
0	0	28.4133	25	2.3652
47	47	35.4144	32.8333	2.381
94	94	44.7285	40.6667	2.37804
141	141	53.7005	48.5	2.37109
188	188	62.2238	56.3333	2.36805
235	235	70.5866	64.1667	2.3659
282	282	78.902	72	2.36303
329	329	87.1837	79.8333	2.36013
376	376	95.4624	87.6667	2.35635
423	423	103.723	95.5	2.3523
470	470	111.981	103.333	2.34883
517	517	120.234	111.167	2.34544
564	564	128.47	119	2.34244
611	611	136.722	126.833	2.34001
658	658	144.965	134.667	2.338
705	705	153.167	142.5	2.336
752	752	161.379	150.333	2.33404
799	799	169.566	158.167	2.333
846	846	177.75	166	2.332
893	893	185.919	173.833	2.3309
940	940	194.071	181.667	2.33
987	987	202.207	189.5	2.329
1034	1034	210.334	197.333	2.32886
1081	1081	218.492	205.167	2.328
1128	1128	226.656	213	2.3269
1175	1175	234.757	220.833	2.32594
1222	1222	242.831	228.667	2.32496
1269	1269	250.898	236.5	2.3229
1316	1316	258.945	244.333	2.32081
1363	1363	266.995	252.167	2.31802
1410	1410	275.014	260	2.31426
1457	1457	283.024	267.833	2.30986
1504	1504	291.015	275.667	2.30409
1551	1551	298.999	283.5	2.29656
1598	1598	306.966	291.333	2.28787
1645	1645	314.927	299.167	2.27776
1692	1692	322.884	307	2.2674

1739	1739	330.814	314.833	2.25687
1786	1786	338.768	322.667	2.24846
1833	1833	346.689	330.5	2.24269
1880	1880	354.599	338.333	2.23883
1927	1927	362.499	346.167	2.23635
1974	1974	370.377	354	2.23547
2021	2021	378.24	361.833	2.23423
2068	2068	386.103	369.667	2.23291
2115	2115	393.93	377.5	2.232
2162	2162	401.766	385.333	2.23102
2209	2209	409.573	393.167	2.23
2256	2256	417.399	401	2.22926
2303	2303	425.193	408.833	2.22802
2350	2350	432.972	416.667	2.22791
2397	2397	440.755	424.5	2.227
2444	2444	448.535	432.333	2.22599
2491	2491	456.286	440.167	2.22501
2538	2538	464.049	448	2.22414
2585	2585	471.775	455.833	2.224
2632	2632	479.528	463.667	2.223
2679	2679	487.27	471.5	2.223
2726	2726	494.989	479.333	2.222
2773	2773	502.723	487.167	2.221
2820	2820	510.451	495	2.221
2867	2867	518.164	502.833	2.21999
2914	2914	525.865	510.667	2.21921
2961	2961	533.557	518.5	2.21875
3008	3008	541.257	526.333	2.21789
3055	3055	548.953	534.167	2.217
3102	3102	556.665	542	2.21604
3149	3149	564.348	549.833	2.216
3196	3196	572.051	557.667	2.21496
3243	3243	579.723	565.5	2.2139
3290	3290	587.407	573.333	2.21309
3337	3337	595.077	581.167	2.21261
3384	3384	602.761	589	2.21185
3431	3431	610.461	596.833	2.21079
3478	3478	618.152	604.667	2.20955
3525	3525	625.835	612.5	2.20811
3572	3572	633.517	620.333	2.20735
3619	3619	641.196	628.167	2.20578
3666	3666	648.876	636	2.20421
3713	3713	656.559	643.833	2.20281
3760	3760	664.26	651.667	2.2019
3807	3807	671.939	659.5	2.20061
3854	3854	679.636	667.333	2.199
3901	3901	687.331	675.167	2.1979
3948	3948	695.03	683	2.19643
3995	3995	702.736	690.833	2.19507
4042	4042	710.448	698.667	2.1939

4089	4089	718.159	706.5	2.193
4136	4136	725.88	714.333	2.19189
4183	4183	733.601	722.167	2.19027
4230	4230	741.324	730	2.1892
4277	4277	749.047	737.833	2.188
4324	4324	756.79	745.667	2.18698
4371	4371	764.534	753.5	2.1858
4418	4418	772.276	761.333	2.18449
4465	4465	780.027	769.167	2.18333
4512	4512	787.789	777	2.1818
4559	4559	795.532	784.833	2.18098
4606	4606	803.298	792.667	2.1799

Results:

Step -3.73 %
-88.11e-03 mg

Texts:

VMgO Calcined_16 Nov, 16.11.2021 12:53:57
Sample Weight
VMgO Calcined_16 Nov, 2.3650 mg

Sample:

VMgO Calcined_16 Nov, 2.3650 mg
Sample Remarks:

Experiment Comments:

-

Curve Categories:

Evaluation:

VMgO Calcined_16 Nov, 16.11.2021 13:48:56

Method:

VMgO Calcined_16 nov

Adjustment:

From 0.00 to 77.50 min

Gas Factor : 1

Tau Lag : $64.5380 - 0.1070 \cdot T + 51.6880e-06 \cdot T^2$ s
adjusted : (-)

Sample Temperature:

TGA/SF SDTA FRS2

Tc : 25.00 °C

dTs(T) : $0.0000 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

Tau Lag: $3.9952 + 2.7766e-03 \cdot T - 286.8100e-09 \cdot T^2$ s

E Nominal:

a	b	c	Temp.
29.988	-0.025285	6.2722e-006	1600.0

dE : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

E Indium : 42.5357 1/mW
dE relative : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$
adjusted : (28.05.2021 10:36:33)

Balance:

Type : MX1/XP1

adjusted: -

Sample Holder:

Alumina 70ul

Weight : 0

Material: Ceramic

Order Number:

Customer:

User:

METTLER

Curve Name:

!VMgO Calcined_16 Nov, 16.11.2021 13:48:56

Performed 16.11.2021 12:53:57

Sample Weight

Curve Values:

Index	t [s]	Ts [°C]	Tr [°C]	Value [%]
0	0	28.4133	25	100.008
47	47	35.4144	32.8333	100.676
94	94	44.7285	40.6667	100.551
141	141	53.7005	48.5	100.258
188	188	62.2238	56.3333	100.129
235	235	70.5866	64.1667	100.038
282	282	78.902	72	99.9167
329	329	87.1837	79.8333	99.7939
376	376	95.4624	87.6667	99.6342
423	423	103.723	95.5	99.4629
470	470	111.981	103.333	99.3165
517	517	120.234	111.167	99.1731
564	564	128.47	119	99.0463
611	611	136.722	126.833	98.9433
658	658	144.965	134.667	98.8584
705	705	153.167	142.5	98.7739
752	752	161.379	150.333	98.691
799	799	169.566	158.167	98.6469
846	846	177.75	166	98.6046
893	893	185.919	173.833	98.5581
940	940	194.071	181.667	98.5201
987	987	202.207	189.5	98.478
1034	1034	210.334	197.333	98.472

1081	1081	218.492	205.167	98.4355
1128	1128	226.656	213	98.389
1175	1175	234.757	220.833	98.3485
1222	1222	242.831	228.667	98.307
1269	1269	250.898	236.5	98.2199
1316	1316	258.945	244.333	98.1317
1363	1363	266.995	252.167	98.0134
1410	1410	275.014	260	97.8545
1457	1457	283.024	267.833	97.6687
1504	1504	291.015	275.667	97.4245
1551	1551	298.999	283.5	97.1062
1598	1598	306.966	291.333	96.7387
1645	1645	314.927	299.167	96.3111
1692	1692	322.884	307	95.8732
1739	1739	330.814	314.833	95.4281
1786	1786	338.768	322.667	95.0721
1833	1833	346.689	330.5	94.8284
1880	1880	354.599	338.333	94.6652
1927	1927	362.499	346.167	94.5601
1974	1974	370.377	354	94.5232
2021	2021	378.24	361.833	94.4706
2068	2068	386.103	369.667	94.4148
2115	2115	393.93	377.5	94.3763
2162	2162	401.766	385.333	94.3348
2209	2209	409.573	393.167	94.2919
2256	2256	417.399	401	94.2604
2303	2303	425.193	408.833	94.208
2350	2350	432.972	416.667	94.2033
2397	2397	440.755	424.5	94.1649
2444	2444	448.535	432.333	94.1222
2491	2491	456.286	440.167	94.0809
2538	2538	464.049	448	94.0438
2585	2585	471.775	455.833	94.038
2632	2632	479.528	463.667	93.9958
2679	2679	487.27	471.5	93.9958
2726	2726	494.989	479.333	93.9535
2773	2773	502.723	487.167	93.9113
2820	2820	510.451	495	93.9112
2867	2867	518.164	502.833	93.8685
2914	2914	525.865	510.667	93.8356
2961	2961	533.557	518.5	93.8161
3008	3008	541.257	526.333	93.7795
3055	3055	548.953	534.167	93.7421
3102	3102	556.665	542	93.7016
3149	3149	564.348	549.833	93.6998
3196	3196	572.051	557.667	93.656
3243	3243	579.723	565.5	93.611
3290	3290	587.407	573.333	93.5766
3337	3337	595.077	581.167	93.5563
3384	3384	602.761	589	93.5242

3431	3431	610.461	596.833	93.4795
3478	3478	618.152	604.667	93.4272
3525	3525	625.835	612.5	93.366
3572	3572	633.517	620.333	93.3342
3619	3619	641.196	628.167	93.2677
3666	3666	648.876	636	93.2011
3713	3713	656.559	643.833	93.142
3760	3760	664.26	651.667	93.1036
3807	3807	671.939	659.5	93.0489
3854	3854	679.636	667.333	92.981
3901	3901	687.331	675.167	92.9346
3948	3948	695.03	683	92.8723
3995	3995	702.736	690.833	92.8148
4042	4042	710.448	698.667	92.7653
4089	4089	718.159	706.5	92.7273
4136	4136	725.88	714.333	92.6803
4183	4183	733.601	722.167	92.6117
4230	4230	741.324	730	92.5666
4277	4277	749.047	737.833	92.5159
4324	4324	756.79	745.667	92.4728
4371	4371	764.534	753.5	92.4229
4418	4418	772.276	761.333	92.3675
4465	4465	780.027	769.167	92.3184
4512	4512	787.789	777	92.2536
4559	4559	795.532	784.833	92.219
4606	4606	803.298	792.667	92.1734

Results:

Texts:

!VMgO Calcined_16 Nov

Sample Weight

VMgO Calcined_16 Nov, 2.3650 mg

Sample:

VMgO Calcined_16 Nov, 2.3650 mg

Sample Remarks:

Experiment Comments:

-

Curve Categories:

Evaluation:

VMgO Calcined_16 Nov, 16.11.2021 13:48:56

Method:

VMgO Calcined_16 nov

Adjustment:

From 0.00 to 77.50 min

Gas Factor : 1

Tau Lag : 64.5380 - 0.1070*T + 51.6880e-06*T^2 s

adjusted : (-)
Sample Temperature:
TGA/SF SDTA FRS2
Tc : 25.00 °C
dTs(T) : 0.0000 + 0.0000*T + 0.0000*T^2 °C
Tau Lag: 3.9952 + 2.7766e-03*T - 286.8100e-09*T^2 s
E Nominal:

	a	b	c	Temp.
	29.988	-0.025285	6.2722e-006	1600.0

dE : 16.3535 + 0.0000*T + 0.0000*T^2 °C

E Indium : 42.5357 1/mW
dE relative : 16.3535 + 0.0000*T + 0.0000*T^2
adjusted : (28.05.2021 10:36:33)

Balance:
Type : MX1/XP1
adjusted: -
Sample Holder:
Alumina 70ul
Weight : 0
Material: Ceramic

Order Number:

Customer:

User:
METTLER

Not signed

STARe SW 11.00

Title

16.11.2021 15:02

Title

Evaluation Categories:

Curve Name:

VMgO Uncalcined_16 Nov, 16.11.2021 14:56:27

Sample Weight

Curve Values:

Index	t [s]	Ts [°C]	Tr [°C]	Value [mg]
0	0	28.425	25	2.45131
47	47	35.3411	32.8333	2.46728
94	94	44.5945	40.6667	2.46574
141	141	53.571	48.5	2.45871
188	188	62.0709	56.3333	2.45566
235	235	70.4476	64.1667	2.45273
282	282	78.7488	72	2.44975
329	329	87.0268	79.8333	2.44591
376	376	95.2936	87.6667	2.44104
423	423	103.552	95.5	2.43418
470	470	111.797	103.333	2.42473
517	517	120.019	111.167	2.41235
564	564	128.254	119	2.39784
611	611	136.496	126.833	2.38264
658	658	144.72	134.667	2.36909
705	705	152.954	142.5	2.35777
752	752	161.179	150.333	2.34895
799	799	169.391	158.167	2.34185
846	846	177.605	166	2.33614
893	893	185.784	173.833	2.33168
940	940	193.948	181.667	2.32769
987	987	202.088	189.5	2.32402
1034	1034	210.213	197.333	2.32131
1081	1081	218.342	205.167	2.31873
1128	1128	226.508	213	2.31582
1175	1175	234.639	220.833	2.31372
1222	1222	242.728	228.667	2.31128
1269	1269	250.822	236.5	2.3084
1316	1316	258.879	244.333	2.30651
1363	1363	266.931	252.167	2.30375
1410	1410	274.949	260	2.30066
1457	1457	282.954	267.833	2.29755
1504	1504	290.953	275.667	2.29377
1551	1551	298.945	283.5	2.28962
1598	1598	306.923	291.333	2.28407
1645	1645	314.875	299.167	2.27694
1692	1692	322.824	307	2.26685
1739	1739	330.738	314.833	2.25224

1786	1786	338.656	322.667	2.23329
1833	1833	346.549	330.5	2.20933
1880	1880	354.45	338.333	2.18143
1927	1927	362.34	346.167	2.15141
1974	1974	370.221	354	2.12232
2021	2021	378.103	361.833	2.09926
2068	2068	385.999	369.667	2.08798
2115	2115	393.853	377.5	2.08386
2162	2162	401.693	385.333	2.08106
2209	2209	409.518	393.167	2.07871
2256	2256	417.33	401	2.07669
2303	2303	425.126	408.833	2.0747
2350	2350	432.91	416.667	2.0727
2397	2397	440.688	424.5	2.0707
2444	2444	448.466	432.333	2.0687
2491	2491	456.221	440.167	2.0667
2538	2538	463.973	448	2.06473
2585	2585	471.722	455.833	2.06271
2632	2632	479.462	463.667	2.0607
2679	2679	487.195	471.5	2.05865
2726	2726	494.906	479.333	2.05632
2773	2773	502.636	487.167	2.05424
2820	2820	510.364	495	2.05234
2867	2867	518.07	502.833	2.04984
2914	2914	525.778	510.667	2.04772
2961	2961	533.471	518.5	2.0456
3008	3008	541.163	526.333	2.0437
3055	3055	548.863	534.167	2.0408
3102	3102	556.552	542	2.03875
3149	3149	564.239	549.833	2.0363
3196	3196	571.927	557.667	2.03446
3243	3243	579.613	565.5	2.03253
3290	3290	587.284	573.333	2.03011
3337	3337	594.947	581.167	2.02856
3384	3384	602.633	589	2.0267
3431	3431	610.322	596.833	2.02473
3478	3478	618.021	604.667	2.02291
3525	3525	625.714	612.5	2.02077
3572	3572	633.398	620.333	2.01903
3619	3619	641.086	628.167	2.01741
3666	3666	648.77	636	2.0157
3713	3713	656.466	643.833	2.01394
3760	3760	664.144	651.667	2.01269
3807	3807	671.846	659.5	2.01106
3854	3854	679.548	667.333	2.0096
3901	3901	687.237	675.167	2.00779
3948	3948	694.947	683	2.0067
3995	3995	702.647	690.833	2.00508
4042	4042	710.356	698.667	2.0037
4089	4089	718.077	706.5	2.0026

4136	4136	725.793	714.333	2.00165
4183	4183	733.507	722.167	2.00051
4230	4230	741.23	730	1.9997
4277	4277	748.967	737.833	1.99845
4324	4324	756.683	745.667	1.99748
4371	4371	764.408	753.5	1.99576
4418	4418	772.162	761.333	1.99479
4465	4465	779.92	769.167	1.99356
4512	4512	787.67	777	1.99267
4559	4559	795.436	784.833	1.99173
4606	4606	803.209	792.667	1.99057

Results:

Step -4.51 %
-0.11 mg

Step -8.84 %
-0.22 mg

Texts:

VMgO Uncalcined_16 Nov, 16.11.2021 14:56:27
Sample Weight
VMgO Uncalcined_16 Nov, 2.4510 mg

Sample:

VMgO Uncalcined_16 Nov, 2.4510 mg
Sample Remarks:

Experiment Comments:

-

Curve Categories:

Evaluation:

Method:

VMgO Uncalcined_16 nov

Adjustment:

From 0.00 to 77.50 min

Gas Factor : 1

Tau Lag : $64.5380 - 0.1070 \cdot T + 51.6880 \cdot 10^{-6} \cdot T^2$ s

adjusted : (-)

Sample Temperature:

TGA/SF SDTA FRS2

Tc : 25.00 °C

dTs(T) : $0.0000 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

Tau Lag: $3.9952 + 2.7766 \cdot 10^{-3} \cdot T - 286.8100 \cdot 10^{-9} \cdot T^2$ s

E Nominal:

a	b	c	Temp.
29.988	-0.025285	6.2722e-006	1600.0

dE : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

E Indium : 42.5357 1/mW

dE relative : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$

adjusted : (28.05.2021 10:36:33)

Balance:

Type : MX1/XP1

adjusted: -

Sample Holder:

Alumina 70ul

Weight : 0

Material: Ceramic

Order Number:

Customer:

User:

METTLER

Curve Name:

!VMgO Uncalcined_16 Nov

Sample Weight

Curve Values:

Index	t [s]	Ts [°C]	Tr [°C]	Value [%]
0	0	28.425	25	100.013
47	47	35.3411	32.8333	100.664
94	94	44.5945	40.6667	100.601
141	141	53.571	48.5	100.315
188	188	62.0709	56.3333	100.19
235	235	70.4476	64.1667	100.071
282	282	78.7488	72	99.9489
329	329	87.0268	79.8333	99.7924
376	376	95.2936	87.6667	99.5935
423	423	103.552	95.5	99.3139
470	470	111.797	103.333	98.9284
517	517	120.019	111.167	98.4229
564	564	128.254	119	97.8311
611	611	136.496	126.833	97.2109
658	658	144.72	134.667	96.6579
705	705	152.954	142.5	96.1963
752	752	161.179	150.333	95.8363
799	799	169.391	158.167	95.5466
846	846	177.605	166	95.3136
893	893	185.784	173.833	95.1319
940	940	193.948	181.667	94.9689
987	987	202.088	189.5	94.8193

1034	1034	210.213	197.333	94.7087
1081	1081	218.342	205.167	94.6036
1128	1128	226.508	213	94.4846
1175	1175	234.639	220.833	94.399
1222	1222	242.728	228.667	94.2993
1269	1269	250.822	236.5	94.1819
1316	1316	258.879	244.333	94.1051
1363	1363	266.931	252.167	93.9921
1410	1410	274.949	260	93.8662
1457	1457	282.954	267.833	93.7392
1504	1504	290.953	275.667	93.5852
1551	1551	298.945	283.5	93.4157
1598	1598	306.923	291.333	93.1893
1645	1645	314.875	299.167	92.8982
1692	1692	322.824	307	92.4867
1739	1739	330.738	314.833	91.8908
1786	1786	338.656	322.667	91.1175
1833	1833	346.549	330.5	90.1401
1880	1880	354.45	338.333	89.0018
1927	1927	362.34	346.167	87.7769
1974	1974	370.221	354	86.59
2021	2021	378.103	361.833	85.649
2068	2068	385.999	369.667	85.1889
2115	2115	393.853	377.5	85.0207
2162	2162	401.693	385.333	84.9064
2209	2209	409.518	393.167	84.8109
2256	2256	417.33	401	84.7284
2303	2303	425.126	408.833	84.6472
2350	2350	432.91	416.667	84.5656
2397	2397	440.688	424.5	84.4839
2444	2444	448.466	432.333	84.4024
2491	2491	456.221	440.167	84.3208
2538	2538	463.973	448	84.2404
2585	2585	471.722	455.833	84.1579
2632	2632	479.462	463.667	84.0759
2679	2679	487.195	471.5	83.9923
2726	2726	494.906	479.333	83.8972
2773	2773	502.636	487.167	83.8124
2820	2820	510.364	495	83.7347
2867	2867	518.07	502.833	83.6327
2914	2914	525.778	510.667	83.5465
2961	2961	533.471	518.5	83.4598
3008	3008	541.163	526.333	83.3823
3055	3055	548.863	534.167	83.2641
3102	3102	556.552	542	83.1803
3149	3149	564.239	549.833	83.0802
3196	3196	571.927	557.667	83.0054
3243	3243	579.613	565.5	82.9265
3290	3290	587.284	573.333	82.8277
3337	3337	594.947	581.167	82.7645

3384	3384	602.633	589	82.6888
3431	3431	610.322	596.833	82.6083
3478	3478	618.021	604.667	82.5341
3525	3525	625.714	612.5	82.4466
3572	3572	633.398	620.333	82.3758
3619	3619	641.086	628.167	82.3096
3666	3666	648.77	636	82.2399
3713	3713	656.466	643.833	82.1679
3760	3760	664.144	651.667	82.1172
3807	3807	671.846	659.5	82.0508
3854	3854	679.548	667.333	81.9909
3901	3901	687.237	675.167	81.9174
3948	3948	694.947	683	81.8727
3995	3995	702.647	690.833	81.8065
4042	4042	710.356	698.667	81.7505
4089	4089	718.077	706.5	81.7056
4136	4136	725.793	714.333	81.6667
4183	4183	733.507	722.167	81.6202
4230	4230	741.23	730	81.587
4277	4277	748.967	737.833	81.5362
4324	4324	756.683	745.667	81.4965
4371	4371	764.408	753.5	81.4264
4418	4418	772.162	761.333	81.3867
4465	4465	779.92	769.167	81.3367
4512	4512	787.67	777	81.3001
4559	4559	795.436	784.833	81.2618
4606	4606	803.209	792.667	81.2144

Results:

Texts:

!VMgO Uncalcined_16 Nov

Sample Weight

VMgO Uncalcined_16 Nov, 2.4510 mg

Sample:

VMgO Uncalcined_16 Nov, 2.4510 mg

Sample Remarks:

Experiment Comments:

-

Curve Categories:

Evaluation:

Method:

VMgO Uncalcined_16 nov

Adjustment:

From 0.00 to 77.50 min

Gas Factor : 1

Tau Lag : $64.5380 - 0.1070 \cdot T + 51.6880 \cdot 10^{-6} \cdot T^2$ s
adjusted : (-)

Sample Temperature:

TGA/SF SDTA FRS2

Tc : 25.00 °C

dTs(T) : $0.0000 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

Tau Lag: $3.9952 + 2.7766 \cdot 10^{-3} \cdot T - 286.8100 \cdot 10^{-9} \cdot T^2$ s

E Nominal:

	a	b	c	Temp.
	29.988	-0.025285	6.2722e-006	1600.0

dE : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$ °C

E Indium : 42.5357 1/mW

dE relative : $16.3535 + 0.0000 \cdot T + 0.0000 \cdot T^2$

adjusted : (28.05.2021 10:36:33)

Balance:

Type : MX1/XP1

adjusted: -

Sample Holder:

Alumina 70ul

Weight : 0

Material: Ceramic

Order Number:

Customer:

User:

METTLER

Not signed

STARe SW 11.00