micromeritics®

UES - UEDA ENVIRONMENTAL SOLUTIONS

Sample: UCG-KD-GA
Operator:
Submitter: s/n 212
File: C:\MicroActive for ASAP 2460\data\UCG...\UCG-KD-GA.SMP

Started:	2015/06/19 12:05:48	Analysis Adsorptive:	N2
Completed:	2015/06/19 19:36:34	Analysis Bath Temp.:	-195.800 °C
Report Time:	2015/06/22 7:37:34	Thermal Correction:	No
Sample Mass:	0.1010 g	Warm Free Space:	17.9372 cm^3 Measured
Cold Free Space:	51.6076 cm^3	Equilibration Interval:	10 s
Low Pressure Dose:	20.0000 cm^3/g STP	Sample Density:	1.000 g/cm^3
Automatic Degas:	No		

Summary Report

Surface Area

BET Surface Area: 1,588.6775 m^2/g

Langmuir Surface Area: 1,912.1552 m^2/g

t-Plot Micropore Area: 1,248.6523 m^2/g

Pore Volume

t-Plot micropore volume: 0.482568 cm^3/g

BJH Adsorption cumulative volume of pores between 1.7000 nm and 300.0000 nm diameter: 0.120447 cm^3/g

BJH Desorption cumulative volume of pores between 1.7000 nm and 300.0000 nm diameter: 0.120588 cm^3/g

Pore Size

BJH Adsorption average pore diameter (4V/A): 2.9220 nm

BJH Desorption average pore diameter (4V/A): 2.8813 nm

micromeritics®

UES - UEDA ENVIRONMENTAL SOLUTIONS

Sample: UCG-KD-GA
Operator:
Submitter: s/n 212
File: C:\MicroActive for ASAP 2460\data\UCG...\UCG-KD-GA.SMP

Started: 2015/06/19 12:05:48
Completed: 2015/06/19 19:36:34
Report Time: 2015/06/22 7:37:34
Sample Mass: 0.1010 g
Cold Free Space: 51.6076 cm³
Low Pressure Dose: 20.0000 cm³/g STP
Automatic Degas: No

Analysis Adsorptive: N2
Analysis Bath Temp.: -195.800 °C
Thermal Correction: No
Warm Free Space: 17.9372 cm³ Measured
Equilibration Interval: 10 s
Sample Density: 1.000 g/cm³

BJH Adsorption Pore Distribution Report

Faas Correction
Harkins and Jura
t = [13.99 / (0.034 - log(P/Po))] ^ 0.5

Diameter Range: 1.7000 nm to 300.0000 nm
Adsorbate Property Factor: 0.95300 nm
Density Conversion Factor: 0.0015468
Fraction of Pores Open at Both Ends: 0.00

Pore Diameter Range (nm)	Average Diameter (nm)	Incremental Pore Volume (cm³/g)	Cumulative Pore Volume (cm³/g)	Incremental Pore Area (m²/g)	Cumulative Pore Area (m²/g)
332.5 - 177.3	211.1	0.002523	0.002523	0.048	0.048
177.3 - 95.4	113.4	0.002597	0.005120	0.092	0.139
95.4 - 65.5	74.9	0.001812	0.006932	0.097	0.236
65.5 - 49.7	55.4	0.001554	0.008486	0.112	0.348
49.7 - 39.8	43.6	0.001644	0.010130	0.151	0.499
39.8 - 27.0	30.9	0.003807	0.013936	0.493	0.992
27.0 - 20.6	22.9	0.003525	0.017462	0.616	1.608
20.6 - 16.7	18.2	0.002757	0.020219	0.606	2.215
16.7 - 14.0	15.1	0.002132	0.022350	0.565	2.780
14.0 - 12.1	12.9	0.001764	0.024114	0.548	3.328
12.1 - 10.6	11.2	0.001552	0.025666	0.553	3.881
10.6 - 9.4	9.9	0.001339	0.027005	0.539	4.420
9.4 - 8.5	8.9	0.001223	0.028228	0.549	4.969
8.5 - 7.7	8.1	0.001169	0.029397	0.580	5.549
7.7 - 7.1	7.4	0.001112	0.030509	0.604	6.154
7.1 - 6.5	6.8	0.001086	0.031595	0.643	6.797
6.5 - 6.0	6.2	0.001060	0.032655	0.680	7.477
6.0 - 5.6	5.8	0.001105	0.033760	0.765	8.241
5.6 - 5.2	5.4	0.001127	0.034887	0.838	9.080
5.2 - 4.9	5.0	0.001125	0.036013	0.896	9.975
4.9 - 4.6	4.7	0.001257	0.037270	1.068	11.044
4.6 - 4.3	4.4	0.001333	0.038603	1.207	12.250
4.3 - 4.0	4.2	0.001421	0.040023	1.367	13.617
4.0 - 3.8	3.9	0.001518	0.041541	1.550	15.167
3.8 - 3.6	3.7	0.001647	0.043188	1.783	16.950
3.6 - 3.4	3.5	0.001825	0.045013	2.090	19.040
3.4 - 3.2	3.3	0.002008	0.047022	2.433	21.473
3.2 - 3.0	3.1	0.002283	0.049305	2.923	24.396
3.0 - 2.9	3.0	0.002516	0.051821	3.400	27.795
2.9 - 2.7	2.8	0.002865	0.054686	4.085	31.880
2.7 - 2.6	2.7	0.003255	0.057941	4.900	36.780
2.6 - 2.5	2.5	0.003653	0.061594	5.808	42.588
2.5 - 2.3	2.4	0.004300	0.065894	7.221	49.809
2.3 - 2.2	2.3	0.004983	0.070877	8.836	58.645
2.2 - 2.1	2.1	0.006076	0.076952	11.377	70.021
2.1 - 2.0	2.0	0.008611	0.085564	17.098	87.119

Sample: UCG-KD-GA
Operator:
Submitter: s/n 212
File: C:\MicroActive for ASAP 2460\data\UCG...\UCG-KD-GA.SMP

Started:	2015/06/19 12:05:48	Analysis Adsorptive:	N2
Completed:	2015/06/19 19:36:34	Analysis Bath Temp.:	-195.800 °C
Report Time:	2015/06/22 7:37:34	Thermal Correction:	No
Sample Mass:	0.1010 g	Warm Free Space:	17.9372 cm³ Measured
Cold Free Space:	51.6076 cm³	Equilibration Interval:	10 s
Low Pressure Dose:	20.0000 cm³/g STP	Sample Density:	1.000 g/cm³
Automatic Degas:	No		

Pore Diameter Range (nm)	Average Diameter (nm)	Incremental Pore Volume (cm³/g)	Cumulative Pore Volume (cm³/g)	Incremental Pore Area (m²/g)	Cumulative Pore Area (m²/g)
2.0 - 1.8	1.9	0.013327	0.098891	28.308	115.427
1.8 - 1.7	1.7	0.021556	0.120447	49.458	164.885