

# American Polymer Standards Corporation

8680 Tyler Blvd., Mentor, OH 44060

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## Polystyrene (Narrow MWD) Price per Individual Standard: \$102/250mg

Catalog #	Mp	Mw	Mn	IV*
PS162	162	162	162	0.0177
PS200	208	208	208	0.0150
PS400	370	402	341	0.0219
PS900	845	910	783	0.0340
PS915	915	910	840	0.0340
PS1100	1,080	1,200	1,040	0.0352
PS1200	1,220	1,330	1,150	0.0364
PS1500	1,470	1,490	1,350	0.0385
PS1700	1,670	1,680	1,550	0.0398
PS1900	1,925	1,940	1,690	0.0435
PS2400	2,400	2,500	2,300	0.0450
PS3600	3,600	3,650	3,350	0.0560
PS4000	4,300	4,600	4,000	0.0590
PS5400	5,450	5,480	5,200	0.0680
PS6000	6,100	6,550	5,770	0.073
PS7600	7,600	7,820	7,400	0.076
PS10000	9,400	9,500	9,300	0.089
PS14000	14,000	14,800	13,300	0.119
PS18000	18,000	18,100	17,900	0.127
PS20600	20,600	20,800	18,900	0.151
PS24200	24,200	25,100	23,000	0.170
PS30800	30,800	35,100	30,500	0.202
PS38000	38,300	38,000	36,500	0.228
PS44000	44,100	43,700	38,300	0.242
PS46500	46,500	47,500	46,300	0.265
PS49000	49,000	53,500	47,500	0.286
PS62000	62,100	67,300	60,700	0.335
PS78300	78,300	79,000	68,000	0.372
PS97500	97,500	95,400	83,600	0.448
PS99200	99,200	102,400	95,000	0.465
PS110K	108,000	111,300	101,900	0.488
PS115K	115,000	122,000	108,000	0.490
PS123K	123,000	125,000	118,000	0.550
PS140K	139,700	141,300	127,200	0.575
PS150K	146,600	141,700	133,300	0.580
PS160K	155,400	160,900	144,600	0.635
PS170K	170,000	171,000	164,000	0.681
PS186K	186,000	188,900	177,300	0.745
PS215K	207,300	215,700	190,800	0.760
PS280K	282,400	295,900	266,700	1.006
PS350K	358,400	389,300	357,100	1.223
PS400K	400,000	410,000	395,000	1.260
PS570K	570,000	580,000	520,000	1.500
PS645K	646,600	671,400	587,900	1.762
PS690K	690,000	706,000	672,000	1.895
PS940K	940,000	950,000	925,000	2.300
PS1000K	1,000,000	1,010,000	808,000	2.390
PS1350K	1,350,000	1,355,000	1,165,000	2.807
PS1390K	1,390,000	1,460,000	1,295,000	3.040
PS2000K	1,900,000	1,970,000	1,790,000	3.870

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C

a & K values for PS162 - PS5400 (a = 0.428; K = 0.0017)

a & K values for PS6000 - PS12000K (a = 0.712; K = 0.000128)

## Polystyrene (Ultra High Mw, Narrow MWD) Price per Individual Standard: \$333/250mg

Catalog #	Mp	Mw	Mn	IV*
PS2200K	2,200,000	1,830,000	1,340,000	3.780
PS3000K	2,750,000	2,860,000	2,624,000	4.900
PS5000K	4,200,000	4,480,000	3,930,000	6.650
PS6000K	5,100,000	5,480,000	4,765,000	7.650
PS7000K	6,300,000	6,770,000	5,940,000	8.878
PS8000K	7,800,000	8,420,000	7,200,000	10.335
PS12000K	11,600,000	12,650,000	10,630,000	14.584

## Bimodal Polystyrene (Narrow MWD) Price per Individual Standard: \$187/250mg

Catalog #	Mp1	Mp2	IV*
PS1500/3K	1,450	2,900	0.044
PS3K/6K	2,500	5,000	0.053
PS4K/8K	4,250	8,500	0.070
PS8K/16K	8,500	17,000	0.095
PS15K/30K	15,000	30,000	0.137
PS20K/40K	21,000	42,000	0.192
PS30K/60K	32,000	64,000	0.245
PS55K/110K	56,000	112,000	0.372
PS90K/180K	90,000	180,000	0.460
PS115K/230K	115,000	230,000	0.638
PS130K/260K	138,000	276,000	0.733
PS145K/290K	146,000	292,000	1.042
PS325K/650K	326,000	652,000	1.628
PS700K/1400K	731,500	1,463,000	2.507
PS1000K/2000K	1,000,000	2,000,000	3.654

Mp1 = peak molecular weight of first standard

Mp2 = peak molecular weight of exact double

## Polystyrene (Broad MWD) Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	Mz	IV*
PSBR655K	654,700	278,100	1,172,000	1.515
PSBR560K	560,000	285,000	965,000	1.463
PSBR450K	445,000	175,000	777,800	1.243
PSBR350K	350,250	152,000	647,200	1.075
PSBR300K	300,000	125,000	525,000	0.960
PSBR285K	285,000	115,000	575,000	0.955
PSBR235K	235,000	95,000	415,000	0.783
PSBR215K	215,000	64,100	380,000	0.747
PSBR170K	171,500	80,000	290,000	0.620
PSBR120K	118,500	40,000	265,000	0.427
PSBR50K	48,000	22,500	78,000	0.261
PSBR35K	33,000	14,500	52,000	0.189
PSBR15K	14,900	6,000	25,500	0.112
PSBR1K	1,100	600	1,600	0.035
PSBR300	345	285	415	-----

## Brominated Polystyrene (% Br = 66.3; % Cl = 0.92)

Price per Individual Standard: \$333/250mg

Catalog #	Mw	Mn	Mz	IV*
BRPS650K	646,000	300,000	1,300,000	0.284
BRPS35K	34,500	19,000	51,500	0.037

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## Polymethyl Methacrylate (Narrow MWD)

Price per Individual Standard: \$167/250mg

Catalog #	Mp	Mw	Mn	IV*
PMMA550	550	640	520	0.011
PMMA850	860	1,050	755	0.016
PMMA2K	2,000	2,050	1,890	0.045
PMMA3K	2,825	2,950	2,525	0.049
PMMA5K	4,900	5,100	4,600	0.052
PMMA7K	6,850	6,400	5,800	0.059
PMMA11K	11,800	12,000	10,600	0.076
PMMA35K	35,000	35,300	34,000	0.140
PMMA45K	46,300	45,300	40,700	0.198
PMMA50K	51,000	51,800	49,900	0.202
PMMA70K	72,000	73,000	71,250	0.268
PMMA85K	87,800	85,450	74,300	0.309
PMMA90K	90,000	90,400	88,500	0.346
PMMA121K	122,000	121,000	199,000	0.347
PMMA214K	211,000	214,000	210,000	0.552
PMMA310K	300,000	315,000	295,000	0.780
PMMA320K	322,000	340,000	297,000	0.814
PMMA410K	385,000	410,400	360,000	0.923
PMMA500K	480,300	508,000	450,000	1.080
PMMA615K	600,000	620,000	595,000	1.255
PMMA870K	845,000	885,000	805,000	1.590
PMMA1000K	1,100,000	1,000,000	930,000	1.736
PMMA2100K	2,100,000	2,200,000	1,700,000	2.950

## Polymethyl Methacrylate (Broad MWD)

Price per Individual Standard: \$187/1.0g

Catalog #	Mw	Mn	IV*
PMMA6000K	6,100,000	2,285,000	6.123
PMMA4400K	4,450,000	2,230,000	4.491
PMMA1400K	1,425,000	550,000	1.765
PMMA600K	570,000	265,000	1.162
PMMA510K	513,000	203,000	1.054
PMMA400K	415,000	201,000	0.920
PMMA200K	227,000	110,000	0.619
PMMA150K	157,200	83,700	0.409
PMMA120K	122,000	67,500	0.360
PMMA100K	91,000	52,000	0.307
PMMA76K	75,580	48,000	0.269
PMMA65K	65,150	43,150	0.242
PMMA36K	35,300	21,000	0.158
PMMA17K	17,600	9,650	0.087

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°

a & K values for all PMMA (a = 0.69; K = 0.000128)

## Polybutadiene (Broad MWD)

Price per Individual Standard: \$187/1.0g

Catalog #	Mw	Mn	Mz
PBU330K	330,000	93,000	800,000
PBU240K	240,000	110,000	430,000
PBU230K	230,000	80,000	515,000
PBU5000	5,000	4,800	5,300
PBU3800	3,850	3,200	4,475
PBU1700	1,725	1,200	2,250

## Polybutadiene (Narrow MWD)

Price per Individual Standard: \$200/250mg

Catalog #	Mp	Mw	Mn	IV*
PBU700K	675,000	705,000	536,800	5.200
PBU420K	350,000	423,000	286,000	3.410
PBU375K	355,000	375,800	313,600	3.220
PBU345K	345,000	345,600	311,200	3.000
PBU275K	275,000	322,000	226,000	3.051
PBU170K	170,000	173,600	160,000	1.922
PBU150K	147,400	205,000	138,000	1.919
PBU80K	80,000	89,100	72,200	1.120
PBU60K	60,500	60,700	55,000	0.913
PBU43K	43,000	45,000	41,100	0.775
PBU23K	23,600	24,700	22,600	0.451
PBU5.1K	5,100	5,000	4,850	0.155
PBU5K	4,800	5,300	4,200	0.177
PBU3K	2,900	3,000	2,760	0.107
PBU1K	1,000	1,050	980	0.053
PBU900	875	925	835	0.043
PBU500	500	500	425	0.029

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C

a & K values for Narrow PBU (a = 0.715; K = 0.000350) (THF)

a & K values for Narrow PBU (a = 0.714; K = 0.000364) (Toluene)

a & K values for Narrow PBU (a = 0.712; K = 0.000428) (Chloroform)

## Polycarbonate (Branched)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	IV*
PC38K	38,500	10,900	0.620
PC35K	35,500	12,000	0.577
PC33K	33,000	21,000	0.598
PC32K	32,200	9,600	0.531
PC28K	27,600	9,800	0.495
PC25K	25,600	9,100	0.476
PC20K	20,200	12,200	0.322
PC19K	18,800	6,700	0.369
PC13K	13,100	6,100	0.302
PC5K	4,200	1,400	0.122

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C

a & K values for PC (a = 0.67; K = 0.000490)

## Poly (Vinyl Butyral) (Broad MWD)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	IV*
PVB170K	167,000	44,300	1.564
PVB130K	128,400	38,500	1.248
PVB90K	92,300	23,700	1.036
PVB65K	66,500	18,800	0.750

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C

## Poly (Iso-Butylene) (Broad MWD)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	Mz	IV*
PIB1700K	1,736,000	992,000	2,810,000	2.354
PIB1300K	1,309,000	485,400	2,850,000	2.785
PIB105K	105,000	59,200	196,000	0.495
PIB80K	79,800	30,000	162,700	0.365
PIB75K	76,200	21,900	181,700	0.353
PIB10K	9,700	2,500	20,700	0.099
PIB6K	7,200	2,050	12,800	0.085
PIB3K	2,750	1,300	4,800	0.061
PIB1K	1,600	950	3,600	0.043

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C

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## Poly (Iso-Butylene) (Narrow MWD)

Price per Individual Standard: \$200/250mg

Catalog #	Mp	Mw	Mn
PIB114	114	114	114
PIB226	226	226	226
PIB310	309	334	289
PIB320	320	341	314
PIB345	343	365	334
PIB400	460	475	435
PIB500	497	546	503
PIB585	585	595	527
PIB595	595	620	550
PIB660	660	690	585
PIB720	720	900	675
PIB780	783	745	665
PIB840	841	780	775
PIB890	890	900	770
PIB960	960	950	833
PIB1200	1,225	1,280	1,095
PIB1300	1,300	1,420	1,100
PIB1420	1,420	1,450	1,240
PIB7600	7,600	8,100	6,700
PIB8100	8,100	10,000	5,400
PIB9000	9,000	9,900	7,500
PIB10000	10,100	10,800	8,700
PIB14K	14,500	15,700	12,000
PIB21K	21,400	20,900	13,900
PIB51K	51,300	63,700	43,500
PIB79K	79,500	92,300	65,500
PIB85K	87,600	87,000	72,100
PIB90K	90,200	107,000	72,300
PIB95K	95,400	102,300	76,500
PIB100K	100,200	117,100	78,100
PIB135K	133,000	140,000	117,000
PIB142K	142,600	165,700	105,600
PIB150K	147,700	177,900	118,200
PIB168K	168,400	204,700	130,200
PIB205K	205,000	256,600	164,000
PIB256K	256,500	286,000	218,800
PIB266K	266,000	293,800	240,800
PIB367K	367,500	412,000	303,500
PIB400K	398,800	476,300	301,100
PIB570K	570,000	721,900	410,200
PIB705K	705,000	810,600	552,300
PIB820K	820,000	912,000	645,000
PIB925K	923,500	1,165,000	710,600
PIB959K	959,500	1,155,000	653,500
PIB1000K	1,020,000	1,110,000	925,000
PIB1265K	1,265,000	1,330,000	860,500
PIB1334K	1,334,000	1,565,000	971,200
PIB1430K	1,430,000	1,600,000	1,235,000
PIB1500K	1,500,000	1,580,000	950,000
PIB2000K	2,000,000	2,170,000	1,685,000
PIB2100K	2,100,000	2,350,000	1,403,000
PIB2300K	2,308,000	2,574,000	1,540,000
PIB2438K	2,438,000	2,700,000	1,318,000
PIB2600K	2,600,000	2,990,000	2,050,000

## Polyvinyl Chloride (Broad MWD)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	IV*
PVCL140K	139,700	60,700	1.290
PVCL120K	118,800	51,600	1.111
PVCL105K	105,000	43,600	1.012
PVCL90K	89,500	37,500	0.975
PVCL70K	70,000	30,100	0.778
PVCL60K	58,800	33,300	0.713
PVCL55K	55,400	22,300	0.611
PVCL40K	44,000	24,100	0.575

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C

## Polypropylene Glycol (Narrow MWD)

Price per Individual Standard: \$80/1.0g

Catalog #	Mp	Mw	Mn	IV*
PPG5000	4,850	5,300	4,800	0.110
PPG4000	4,000	4,250	3,900	0.081
PPG3200	3,200	3,250	3,050	0.076
PPG2700	2,550	2,700	2,500	0.063
PPG2200	2,150	2,250	1,985	0.057
PPG2000	2,000	2,150	1,950	0.060
PPG1200	1,200	1,350	1,190	0.040
PPG1000	1,000	1,150	990	0.038
PPG800	775	810	750	0.033
PPG450	450	460	410	0.027
PPG76	76	76	76	0.018

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C  
a & K values for PPG (a = 0.585; K = 0.000620)

## Polyvinyl Acetate (Broad MWD)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	IV*
PVAC275K	275,000	65,700	0.780
PVAC234K	234,000	74,000	0.748
PVAC195K	195,000	52,100	0.621
PVAC189K	189,000	50,000	0.616
PVAC134K	134,100	38,400	0.496
PVAC124K	124,100	40,300	0.460
PVAC45K	46,200	18,700	0.251
PVAC17K	17,400	7,500	0.135

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C  
a & K values for PVAC (a = 0.63; K = 0.00035)

## Polypropylene (Low Mw, Narrow MWD)

Price per Individual Standard: \$200/250mg

Catalog #	Mp	Mw	Mn	IV*
PP2600	2,575	2,650	2,530	0.052
PP2250	2,250	2,250	2,180	0.047
PP1900	1,850	1,900	1,800	0.042
PP1800	1,800	1,770	1,630	0.039
PP1650	1,650	1,660	1,575	0.037
PP1450	1,450	1,440	1,375	0.033
PP1365	1,365	1,400	1,355	0.032
PP1300	1,300	1,290	1,230	0.030
PP1160	1,160	1,175	1,120	0.028
PP1075	1,075	1,100	1,070	0.027
PP1000	1,000	1,015	965	0.026
PP900	900	930	890	0.023
PP875	875	890	850	0.023
PP780	780	800	760	0.021

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C  
a & K values for PP Low MW (a = 0.78; K = 0.00014)

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## Polypropylene (Broad MWD)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	Mp	IV*
PP800K	801,000	127,000	190,000	4.405
PP575K	575,000	100,000	138,200	3.663
PP467K	467,300	75,400	125,600	3.169
PP350K	348,300	43,500	198,000	2.323
PP300K	297,000	47,500	160,000	2.120
PP270K	267,000	43,300	152,700	1.633
PP230K	231,300	41,800	150,000	1.481
PP210K	210,000	41,200	137,900	1.397
PP200K	197,100	40,600	131,000	1.280
PP180K	177,100	40,000	118,300	1.244
PP150K	151,900	38,400	106,800	1.119
PP135K	136,500	37,000	101,500	1.000
PP110K	110,500	34,000	87,100	0.922
PP105K	108,000	32,500	82,800	0.869
PP95K	95,400	28,100	72,500	0.846
PP60K	59,300	24,700	52,300	0.605
PP50K	50,400	23,600	49,700	0.580
PP45K	47,500	21,300	42,600	0.541
PP9K	8,600	2,600	8,500	0.130
PP6K	6,200	3,000	6,000	0.113
PP1200	1,220	885	1,100	0.032
PP800	830	740	800	0.025

IV\* - Intrinsic Viscosity (dL/g) in TCB at 145°C  
a & K values for PP Broad (a = 0.750; K = 0.000137)

## Polydimethylsiloxane (Broad MWD)

Price per Individual Standard: \$187/1.0g

Catalog #	Mw	Mn	IV*
PDS842K	841,900	480,500	1.126
PDS800K	809,000	447,300	1.051
PDS775K	755,300	440,700	1.022
PDS265K	265,000	75,700	0.658
PDS220K	220,100	62,900	0.578
PDS145K	145,000	58,000	0.420
PDS90K	90,500	39,300	0.305
PDS50K	50,400	28,200	0.171
PDS40K	40,000	22,200	0.170
PDS30K	30,200	17,800	0.130
PDS20K	17,800	10,500	0.095
PDS11K	11,550	8,200	0.069
PDS9K	9,000	7,800	0.056
PDS6K	5,800	4,250	0.035
PDS5K	5,200	2,520	0.031
PDS3K	3,100	2,450	0.020
PDS2K	2,400	1,650	0.018
PDS1K	1,380	860	-----
PDS1500	1,675	1,350	-----

IV\* - Intrinsic Viscosity (dL/g) in Toluene at 30°C  
a & K values for PDS (a = 0.731; K = 0.0000624)

## Cellulose Acetate

Price per Individual Standard: \$234/1.0g

Catalog #	Mw	Mn	IV*
CA135K	135,200	94,300	1.708

IV\* - Intrinsic Viscosity (dL/g) in 98% Acetone, 2% Water at 30°C

## Cellulose Triacetate

Price per Individual Standard: \$273/250mg

Catalog #	Mw	Mn	IV*
CTA140K	140,000	56,700	1.858

IV\* - Intrinsic Viscosity (dL/g) MeCl<sub>2</sub> at 30°C

## Polydimethylsiloxane

Price per Individual Standard: \$293/500mg

Catalog #	Mp	Mw	Mn	IV
LPDS162	162	162	162	0.002
LPDS237	237	237	237	0.003
LPDS490	490	510	360	0.005
LPDS640	640	670	620	0.006
LPDS1K	1,650	1,800	1,550	0.015
LPDS2K	2,100	2,350	1,900	0.018
LPDS3K	2,900	3,300	2,650	0.023
LPDS4K	4,200	5,050	4,450	0.032
LPDS5K	5,700	6,700	4,600	0.039
LPDS6K	6,200	6,900	5,300	0.036
LPDS7K	6,800	7,650	6,900	0.043
LPDS8K	8,100	8,900	6,900	0.045
LPDS9K	9,000	10,800	9,650	0.055
LPDS10K	10,350	11,850	10,700	0.059
LPDS11K	10,900	12,200	9,900	0.056
LPDS12K	12,000	12,500	11,250	0.068
LPDS15K	15,000	16,500	14,500	0.082
LPDS18K	17,700	19,350	17,200	0.093
LPDS20K	19,600	21,500	19,400	0.088
LPDS23K	23,300	24,800	22,200	0.111
LPDS26K	26,500	28,000	25,400	0.123
LPDS28K	28,800	31,300	25,600	0.121
LPDS30K	30,500	35,000	29,000	0.135
LPDS35K	34,100	35,400	32,700	0.147
MPDS40K	39,400	41,600	38,700	0.166
MPDS45K	45,700	47,250	44,000	0.182
MPDS50K	51,200	51,400	48,000	0.194
MPDS55K	57,000	59,500	54,600	0.213
MPDS59K	59,100	60,000	52,200	0.194
MPDS65K	64,800	65,300	60,000	0.228
MPDS70K	71,000	77,200	65,400	0.220
MPDS75K	75,700	93,400	61,400	0.242
MPDS81K	81,500	98,300	76,300	0.243
MPDS90K	90,300	103,800	84,000	0.272
MPDS94K	93,750	110,000	93,550	0.302
MPDS96K	95,800	108,500	94,550	0.299
MPDS103K	102,500	110,700	73,750	0.287
MPDS113K	113,000	141,600	89,900	0.373
MPDS120K	121,500	147,800	110,900	0.325
HPDS130K	131,300	147,800	116,700	0.369
HPDS133K	133,300	155,900	113,900	0.372
HPDS155K	155,400	188,900	108,000	0.389
HPDS167K	166,900	183,600	151,800	0.463
HPDS177K	177,800	213,800	163,700	0.429
HPDS194K	194,300	232,400	151,900	0.485
HPDS213K	213,000	235,000	173,000	0.491
HPDS220K	219,400	242,200	194,500	0.500
HPDS230K	229,100	243,900	188,500	0.517
HPDS291K	291,000	359,700	226,000	0.616
HPDS345K	345,000	454,200	348,500	0.675
HPDS355K	355,500	408,200	313,600	0.713
HPDS385K	384,500	438,500	352,300	0.777
HPDS610K	610,000	873,300	425,900	1.550
HPDS840K	840,000	1,000,000	752,000	1.845

IV\* - Intrinsic Viscosity (dL/g) in Toluene at 30°C  
a & K values for LPDS, MPDS, HPDS  
(a = 0.731; K = 0.0000624)

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## Polyethylene (Branched HD-LDPE)

Price per Individual Standard: \$440/1.0g

Catalog #	LCB*	Mw	Mn	IV**
BRPE0	0.0	52,000	18,300	1.010
BRPE14	1.4	88,200	23,000	0.898

LCB\* - Branched per 1000 carbons

IV\*\* - Intrinsic Viscosity (dL/g) in TCB at 140°C

## Polyethylene (Broad MWD)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	Mz	IV*
<b>HIGH DENSITY</b>				
PE150K	150,100	20,200	565,100	1.785
PE130K	132,700	82,600	321,000	1.900
PE105K	105,000	10,400	475,000	1.420
PE73K	72,500	17,150	259,500	1.223
PE52K	52,000	18,300	138,000	1.010
<b>LOW DENSITY</b>				
PE102K	102,000	9,800	366,300	1.550

IV\* - Intrinsic Viscosity (dL/g) in TCB at 130°C

## Polyethylene (Narrow MWD)

Price per Individual Standard: \$399/200mg

Catalog #	Mp	Mw	Mn	IV*
PE115K	114,000	115,200	97,000	1.918
PE67K	67,400	68,200	64,000	1.317

IV\* - Intrinsic Viscosity (dL/g) in TCB at 135°C  
a & K values for PE Narrow (a = 0.705; K = 0.0005188)

## Polyethylene (Low Mw)

Price per Individual Standard: \$200/1.0g

Catalog #	Mp	Mw	Mn	Mz
PE5300	5,300	6,400	3,160	11,200
PE4930	4,930	6,060	3,020	10,600
PE4650	4,650	5,640	2,880	9,790
PE3700	3,700	4,360	2,300	7,430
PE1200	1,230	1,810	940	3,640
PE770	770	840	720	1,000
PE580	580	620	540	730
PE540	540	610	530	710
PE430	430	455	410	510
PE254	254	254	254	254
PE226	226	226	226	226
PE212	212	212	212	212
PE198	198	198	198	198
PE170	170	170	170	170
PE156	156	156	156	156
PE86	86	86	86	86

## Polyethylene (Ultra High MWD)

Price per Individual Standard: \$545/1.0g

Catalog #	Mw	Mn	Mv	IV*
UHMWPE1200K	1,165,000	214,600	753,000	9.30
UHMWPE1070K	1,070,000	202,200	769,100	10.77
UHMWPE1000K	1,033,000	237,000	740,500	7.20
UHMWPE800K	883,500	189,000	642,200	7.70

IV\* - Intrinsic Viscosity (dL/g) in TCB at 135°C

## Polyacrylonitrile

Price per Individual Standard: \$220/500mg

Catalog #	Mw	Mn	IV*
PAN86K	86,200	22,500	1.787

IV\* - Intrinsic Viscosity (dL/g) in DMF at 80°C  
a & K values for PAN (a = 0.752; K = 0.00045)

## Polyethylene Terephthalate

Price per Individual Standard: \$636/1.0g

Catalog #	Mw	Mn	Mz	IV*
PET63K	63,500	30,000	99,000	0.945
PET49K	49,200	25,600	72,800	0.685
PET39K	39,000	21,000	69,000	0.630
PET27K	27,400	15,400	47,100	0.511
PET1100	1,155	860	1,490	0.002

IV\* - Intrinsic Viscosity (dL/g) in o-chlorophenol at 25°C  
a & K values for PET (a = 0.658; K = 0.000631)

## Polybutylene Terephthalate

Price per Individual Standard: \$636/1.0g

Catalog #	Mw	Mn	Mz	IV*
PBT55K	54,600	24,200	93,000	1.200
PBT52K	52,500	27,200	82,000	1.145
PBT44K	43,600	21,200	71,000	1.000
PBT37K	37,200	18,300	58,200	0.850
PBT29K	29,300	15,900	45,000	0.670
PBT16K	16,150	8,150	27,500	0.284

IV\* - Intrinsic Viscosity (dL/g) in o-chlorophenol at 25°C  
a & K values for PBT (a = 0.915; K = 0.0000622)

## Polytetrahydrofuran

Price per Individual Standard: \$200/1.0g

Catalog #	Mp	Mw	Mn	IV*
PTHF9K	9,000	8,950	5,600	0.185
PTHF6K	6,000	5,950	2,100	0.136
PTHF4K	3,650	3,900	1,500	0.105
PTHF1.5K	1,500	2,400	1,100	0.078
PTHF1K	900	1,250	550	0.057

IV\* - Intrinsic Viscosity (dL/g) in THF at 30°C  
a & K values for PTHF (a = 0.548; K = 0.00128)

## Nylon 6 /Poly (Caprolactam)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	Mp	IV*
NSIX40K	41,000	19,400	33,000	2.168
NSIX30K	31,400	17,400	26,300	1.677
NSIX20K	22,000	13,000	17,500	1.188
NSIX15K	17,200	11,300	14,500	1.076

IV\* - Intrinsic Viscosity (dL/g) in HCOOH (90%) at 25°C  
a & K values for NSIX (a = 0.70; K = 0.00145)

## Nylon 66/(Polyamide: Adipic Acid Hexamethylenediamine)

Price per Individual Standard: \$200/250mg

Catalog #	Mw	Mn	Mp	IV*
N46K	46,200	20,800	31,000	1.526
N40K	40,500	17,400	29,000	1.354
N33K	33,100	15,000	22,200	1.196
N32K	32,300	14,700	21,800	1.188

IV\* - Intrinsic Viscosity (dL/g) in HCOOH (90%) at 25°C  
a & K values for N (a = 0.68; K = 0.00110)

## Vinylidene Fluoride-hexafluoropropylene

Price per Individual Standard: \$399/1.0g

Catalog #	Mw	Mn	IV*
VFH230K	230,800	140,600	0.789
VFH290K	287,900	151,600	0.850
VFH320K	320,300	137,700	1.060
VFH365K	364,800	187,400	1.283
VFH560K	561,900	213,800	1.392
VFH685K	685,000	249,200	2.016

IV\* - Intrinsic Viscosity (dL/g) in DMAc at 70°C  
a & K values for VFH (a = 0.901; K = 0.00001721)

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## Polysulfone

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	Mz	IV*
PSF57K	57,800	19,900	101,200	0.334
PSF69K	69,200	21,000	124,700	0.366

IV\* - Intrinsic Viscosity (dL/g) in DMF at 50°C

## Polylactic Acid

Price per Individual Standard: \$200/250mg

Catalog #	Mw	Mn	IV*
PLA3K	3,760	1,730	0.108
PLA127K	127,800	47,500	1.480
PLA586K	586,100	225,200	4.460
PLA1300K	1,323,000	430,300	6.680

IV\* - Intrinsic Viscosity (dL/g) in Chloroform at 30°C  
a & K values for PLA (a = 0.67; K = 0.00066)

## Polyisoprene (Broad MWD)

Price per Individual Standard: \$302/1.0g

Catalog #	Mw	Mn	IV*
PI1000K	1,026,000	225,300	4.589
PI1700K	1,727,000	317,600	6.618

IV\* - Intrinsic Viscosity (dL/g) in Toluene at 30°C  
a & K values for PI (a = 0.74; K = 0.000175)

## Polymethacrylic Acid - Na Salt (Narrow MWD)

Price per Individual Standard: \$260/250mg

Catalog #	Mp	Mw	Mn
PMAA171K	171,000	150,000	125,000
PMAA86K	86,000	84,000	81,000
PMAA8K	8,200	8,400	7,600

## Polyacrylic Acid - Na Salt

(Linear, 100% Water Soluble Powders)

Price per Individual Standard: \$283/250mg

Catalog #	Mp	Mw	Mn	IV*
PAA1K	900	1,300	830	0.055
PAA2K	1,250	1,930	1,230	0.068
PAA3K	1,770	2,400	1,650	0.079
PAA4K	2,925	3,800	2,280	0.103
PAA5K	4,100	5,660	3,450	0.122
PAA7K	5,800	6,950	3,700	0.127
PAA8K	7,500	8,300	6,200	0.155
PAA18K	16,000	18,100	12,800	0.228
PAA35K	28,000	36,900	23,100	0.315
PAA70K	47,500	70,900	39,400	0.509
PAA85K	62,900	83,400	47,900	0.595
PAA130K	115,000	131,200	78,400	0.845
PAA165K	130,500	165,300	97,800	1.074
PAA245K	193,800	245,200	153,250	1.825
PAA495K	392,600	495,000	311,300	2.815
PAA585K	467,300	585,500	373,000	3.490
PAA695K	585,400	695,100	493,000	3.853
PAA715K	639,700	713,500	496,400	4.173
PAA755K	589,700	755,250	460,500	3.728
PAA983K	681,600	983,800	609,100	4.706
PAA1050K	750,000	1,050,000	615,000	5.630
PAA1700K	2,250,000	1,700,000	1,100,000	9.355

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
PAA below Mw of 20,000 (a = 0.50; K = 0.001470)  
PAA above Mw of 20,000 (a = 0.86; K = 0.000040)

## Polyacrylic Acid - Na Salt (Broad MWD)

(100% Water Soluble Powders)

Price per Individual Standard: \$260/1.0g

Catalog #	Mw	Mn	Mz	IV*
PAA1200KBR	1,200,000	625,000	1,750,000	5.280
PAA500KBR	507,400	132,500	878,500	2.653
PAA383KBR	383,200	59,300	1,025,000	1.635
PAA308KBR	308,600	54,200	690,000	1.351
PAA298KBR	298,600	54,900	672,300	1.471
PAA297KBR	297,600	47,000	700,000	1.480
PAA275KBR	275,000	22,200	793,100	0.970
PAA270KBR	270,000	61,900	602,600	1.393
PAA167KBR	167,800	16,800	480,700	0.859
PAA136KBR	136,300	24,500	340,900	0.734
PAA29KBR	29,200	7,300	66,600	0.213
PAA19KBR	19,400	3,500	52,200	0.153
PAA10KBR	10,500	1,750	24,000	0.165
PAA8KBR	8,500	2,500	23,800	0.104
PAA4KBR	4,300	850	11,100	0.110
PAA2KBR	1,900	825	4,800	0.059
PAA1KBR	1,400	250	4,800	0.060

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
PAA below Mw of 20,000 (a = 0.50; K = 0.001470)  
PAA above Mw of 20,000 (a = 0.86; K = 0.000040)

## Polyacrylamide (Non-ionic)

Price per Individual Standard: \$260/250mg

Catalog #	Mp	Mw	Mn	IV*
PAM1100K	950,000	1,100,000	460,800	3.495
PAM1000K	800,000	990,000	450,000	3.169
PAM400K	320,000	401,000	189,400	1.406
PAM200K	135,000	201,000	103,600	1.046
PAM100K	93,000	99,000	50,000	0.673
PAM40K	34,000	37,000	22,300	0.300
PAM30K	30,000	30,600	25,300	0.295
PAM15K	15,000	15,500	12,800	0.167
PAM2950	2,950	3,350	2,765	0.076

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for PAM (a = 0.66; K = 0.000373)

## Polyacrylamide (Non-ionic)

Price per Individual Standard: \$287/500mg

Catalog #	Mp	Mw	Mn	IV*
PAAM9000K	6,500,000	9,000,000	4,250,000	14.600
PAAM7000K	6,200,000	7,300,000	2,100,000	5.422
PAAM6000K	4,900,000	5,352,000	535,000	4.715
PAAM1000K	725,000	1,140,000	465,300	3.800
PAAM500K	331,000	524,000	209,600	2.250
PAAM350K	193,400	367,000	141,000	1.650
PAAM80K	50,500	79,900	44,400	0.645
PAAM60K	46,100	58,400	36,500	0.545
PAAM20K	17,300	21,900	13,700	0.255
PAAM10K	7,950	11,530	7,600	0.160
PAAM9K	6,900	8,980	5,300	0.139
PAAM3500	3,500	3,500	2,900	0.077
PAAM3K	2,700	3,200	2,500	0.074

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for PAAM (a = 0.66; K = 0.000373)

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## Polyethylene Oxide (Anionic, Narrow MWD)

Price per Individual Standard: \$218/200mg

Catalog #	Mp	Mw	Mn	IV*
PEOX1350K	1,380,000	1,350,000	1,330,000	6.300
PEOX900K	814,000	873,000	759,000	5.620
PEOX600K	612,000	630,000	594,300	3.950
PEOX368K	354,000	368,000	340,700	3.060
PEOX147K	141,500	147,000	140,000	1.530
PEOX90K	83,600	89,050	60,200	0.912
PEOX85K	85,600	84,450	61,700	0.895
PEOX46K	45,300	46,100	44,700	0.626
PEOX26K	26,300	26,100	25,600	0.417
PEOX21K	21,100	21,900	20,300	0.356

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for PEOX (a = 0.693; K = 0.000365)  
Note: Below Mw of 20,000 use Polyethylene Glycol

## Polyethylene Oxide (Anionic, Broad MWD)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	IV*
PEOX2000K	1,750,000	540,600	6.855
PEOX916K	916,800	316,100	4.590
PEOX825K	825,200	325,000	4.300
PEOX700K	700,500	320,500	3.879
PEOX500K	475,500	180,600	2.927
PEOX200K	204,000	47,000	1.497
PEOX120K	122,700	36,500	0.925

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for PEOX (a = 0.693; K = 0.000365)

## Polyethylene Glycol (Narrow MWD)

Price per Individual Standard: \$74/1.0g

Catalog #	Mp	Mw	Mn	IV*
PEG62	62	62	62	0.022
PEG106	106	106	106	0.026
PEG194	194	194	194	0.029
PEG238	238	238	200	0.029
PEG330	330	335	295	0.034
PEG350	350	355	320	0.035
PEG375	375	380	340	0.037
PEG400	400	425	385	0.038
PEG425	425	430	395	0.038
PEG450	450	455	415	0.039
PEG590	590	590	530	0.041
PEG610	610	645	580	0.042
PEG650	650	665	615	0.043
PEG700	700	700	645	0.045
PEG840	840	850	775	0.049
PEG975	975	980	900	0.052
PEG985	985	1,000	955	0.053
PEG1050	1,050	1,065	1,000	0.056
PEG1150	1,150	1,150	1,100	0.058
PEG1500	1,500	1,510	1,425	0.067
PEG1670	1,670	1,690	1,615	0.072
PEG2200	2,210	2,345	2,190	0.083
PEG2500	2,500	2,560	2,375	0.090
PEG3300	3,330	3,410	3,165	0.107
PEG3770	3,770	3,800	3,580	0.114
PEG5250	5,250	5,300	4,750	0.130
PEG5800	5,800	6,250	5,400	0.145
PEG10730	10,730	10,750	10,300	0.202
PEG15000	14,500	14,600	13,200	0.246
PEG30000	30,250	29,450	15,400	0.367

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for PEG (a = 0.57; K = 0.00104)

## Polystyrene Sulfonate - Na Salt (Anionic, Narrow MWD)

Price per Individual Standard: \$138/250mg

Catalog #	Mp	Mw	Mn	IV*
PSS3760K	3,760,000	3,592,000	3,554,000	4.762
PSS3429K	3,429,000	3,462,000	3,441,000	4.700
PSS900K	907,000	829,500	740,500	1.770
PSS670K	673,000	555,000	198,000	1.305
PSS570K	576,900	587,600	557,600	1.370
PSS240K	242,600	252,300	207,800	0.646
PSS90K	88,700	88,700	85,600	0.311
PSS80K	77,900	73,900	60,000	0.323
PSS41K	39,000	41,000	37,500	0.208
PSS30K	29,500	31,000	28,200	0.162
PSS15K	15,650	15,450	14,800	0.102
PSS7K	7,420	7,540	6,960	0.064
PSS4K	4,600	4,800	4,400	0.037
PSS1K	1,600	1,690	1,440	0.023

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for PSS (a = 0.70; K = 0.000125)

## Polystyrene Sulfonate - Na Salt (Anionic, Broad MWD)

Price per Individual Standard: \$187/1.0g

Catalog #	Mw	Mn	IV*
PSS700K	700,000	143,900	2.147
PSS675K	675,000	205,000	1.370
PSS100K	100,500	30,000	0.353
PSS65K	67,500	24,800	0.325

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for PSS (a = 0.70; K = 0.000125)

## Dextran (Broad MWD, Branched Polysaccharides)

Price per Individual Standard: \$138/1.0g

Catalog #	Mw	Mn	IV*
D2400K	2,457,000	197,400	0.671
D1870K	1,870,000	207,800	1.066
D1740K	1,740,000	152,400	0.638
D1150K	1,150,000	352,000	0.692
D990K	990,000	250,000	0.659
D400K	405,700	170,300	0.475
D180K	178,000	86,000	0.343
D130K	129,000	30,500	0.285
D120K	122,300	53,000	0.314
D60K	60,300	35,350	0.223
D50K	46,800	27,700	0.190
D40K	41,100	24,000	0.186
D18K	17,900	11,650	0.119
D16K	16,230	7,870	0.118
D7K	7,200	3,160	0.085
D5K	5,300	1,950	0.059
D4K	4,300	2,160	0.058
D1K	1,010	510	0.028

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for D (a = 0.50; K = 0.00090)



# American Polymer Standards Corporation

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## Dextran (Branched, Polysaccharides) Price per Individual Standard: \$218/1.0g

Catalog #	Mp	Mw	Mn	IV*
DXT180	180	180	180	0.012
DXT350	342	342	342	0.016
DXT500	505	505	505	0.020
DXT1K	1,000	1,200	900	0.028
DXT3K	2,800	3,650	2,750	0.048
DXT4K	3,400	4,300	3,250	0.055
DXT36K	32,500	36,300	25,300	0.181
DXT41K	36,700	41,400	30,200	0.180
DXT43K	35,000	42,750	28,700	0.178
DXT44K	40,900	44,100	34,100	0.205
DXT53K	42,000	53,000	30,000	0.185
DXT55K	49,600	55,500	41,200	0.239
DXT63K	55,600	63,000	44,800	0.245
DXT72K	62,900	72,700	50,700	0.238
DXT95K	78,300	95,200	59,200	0.301
DXT123K	97,000	123,500	77,700	0.305
DXT130K	111,900	131,400	97,900	0.324
DXT147K	133,100	147,600	107,200	0.274
DXT250K	240,000	256,200	160,000	0.489
DXT275K	238,000	275,900	204,600	0.463
DXT325K	245,000	326,600	205,000	0.350
DXT350K	307,600	351,600	205,200	0.515
DXT360K	317,000	360,100	182,800	0.479
DXT420K	369,100	420,000	266,100	0.473
DXT445K	405,000	445,600	296,300	0.523
DXT470K	375,600	471,300	250,000	0.583
DXT480K	315,000	480,000	200,000	0.457
DXT535K	453,600	534,600	294,100	0.588
DXT570K	512,600	570,100	428,000	0.636
DXT600K	410,000	610,500	335,300	0.585
DXT630K	465,900	636,400	353,300	0.596
DXT730K	605,000	730,200	418,400	0.721
DXT740K	655,000	736,000	447,100	0.658
DXT820K	745,000	821,700	414,100	0.763
DXT3755K	2,164,000	3,755,000	1,385,000	1.679

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for DXT180 - DXT147K (a = 0.50; K = 0.00090)  
a & K values for DXT250K - DXT820K (a = 0.50; K = 0.00098)  
a & K values for DXT3755K (a = 0.267; K = 0.0194)

## Hydroxyethyl Cellulose

Price per Individual Standard: \$234/250mg

Catalog #	Mw	Mn	Mz	IV*
HEC510K	510,600	168,500	942,000	8.463
HEC450K	449,000	205,000	705,000	7.812
HEC425K	425,000	157,300	720,600	7.411
HEC380K	380,000	147,400	663,800	6.834
HEC121K	121,700	23,300	370,100	3.686
HEC36K	36,000	11,400	90,150	1.500

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Nitrate at 30°C

## Hydroxyethyl Starch (Broad MWD)

Price per Individual Standards: \$266/1.0g

Catalog #	Mw	Mn	Mz	IV*
HETABR685K	685,000	63,000	2,300,000	0.250
HETABR485K	485,500	160,300	1,103,000	0.249
HETABR264K	264,400	38,900	665,000	0.232

## Hydroxyethyl Starch (Branched, Polysaccharides) Price per Individual Standard: \$266/250mg

Catalog #	Mp	Mw	Mn	IV*
HETA6K	5,500	6,000	4,000	0.076
HETA9K	8,900	9,400	5,600	0.088
HETA11K	10,000	11,100	6,800	0.091
HETA18K	16,100	18,300	13,000	0.105
HETA21K	20,400	21,500	11,800	0.113
HETA23K	21,700	23,900	16,300	0.115
HETA27K	20,700	27,400	11,900	0.114
HETA40K	34,800	40,700	22,300	0.131
HETA47K	41,600	47,800	32,100	0.138
HETA55K	46,900	54,700	27,300	0.143
HETA60K	52,800	59,700	38,100	0.148
HETA75K	73,700	75,800	45,400	0.162
HETA82K	75,400	82,500	49,300	0.164
HETA88K	80,000	88,000	55,100	0.166
HETA92K	84,900	92,600	53,700	0.169
HETA95K	80,000	95,800	51,800	0.167
HETA100K	95,600	100,600	63,000	0.176
HETA108K	76,000	108,000	55,400	0.164
HETA115K	107,600	115,100	55,100	0.181
HETA120K	104,400	119,400	65,600	0.180
HETA130K	121,100	130,600	78,400	0.186
HETA136K	114,200	136,800	76,800	0.185
HETA143K	119,400	143,500	89,200	0.187
HETA155K	144,700	155,000	96,300	0.197
HETA160K	153,600	159,200	85,900	0.201
HETA169K	153,600	169,000	95,300	0.202
HETA185K	172,900	184,400	110,000	0.208
HETA206K	194,700	206,700	100,500	0.215
HETA220K	219,300	221,000	90,300	0.217
HETA237K	219,300	237,600	125,700	0.289
HETA250K	219,300	250,400	130,500	0.224
HETA262K	246,900	262,900	141,600	0.231
HETA293K	295,000	293,100	151,300	0.243
HETA337K	374,000	337,600	162,600	0.252
HETA360K	421,200	359,000	187,000	0.264
HETA380K	330,200	379,800	178,600	0.251
HETA395K	446,900	395,100	210,400	0.266
HETA460K	396,900	459,400	188,500	0.263
HETA600K	468,700	608,100	288,000	0.275
HETA666K	677,000	666,400	410,200	0.277
HETA726K	533,300	726,500	374,700	0.290
HETA750K	607,700	750,400	378,200	0.292
HETA865K	642,800	865,500	364,100	0.305
HETA900K	823,700	909,000	378,700	0.309
HETA930K	700,500	928,800	341,500	0.311
HETA1000K	764,000	1,017,000	485,400	0.319
HETA1060K	795,200	1,063,000	495,400	0.323
HETA1175K	1,064,000	1,175,000	452,200	0.333
HETA1240K	1,017,000	1,242,000	559,400	0.338
HETA1300K	1,004,000	1,312,000	690,300	0.334
HETA1340K	1,064,000	1,343,000	624,800	0.345
HETA1500K	1,019,000	1,517,000	687,500	0.358
HETA1700K	1,360,000	1,714,000	742,300	0.371
HETA1790K	1,750,000	1,790,000	1,308,000	0.377
HETA1870K	1,361,000	1,876,000	953,500	0.381
HETA2050K	1,492,000	2,048,000	962,000	0.391
HETA2300K	1,793,000	2,330,000	1,100,000	0.406
HETA2360K	1,803,000	2,367,000	1,077,000	0.408
HETA2500K	1,803,000	2,498,000	1,201,000	0.419
HETA2800K	2,166,000	2,821,000	1,176,000	0.429

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Nitrate at 30°C  
a & K values for HETA & HETABR (a = 0.289; K = 0.00637)

# American Polymer Standards Corporation

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## Pullulan (Linear Polysaccharides) (Polymaltotriose)

Catalog #	Mp	Mw	Mn	Kit Price*
PullulanKit	708,000	805,000	636,000	\$1,996
	344,000	366,000	318,000	
	194,000	200,000	184,000	
	107,000	113,000	100,000	
	47,100	48,800	45,500	
	21,100	21,700	20,000	
	9,600	10,000	9,200	
	6,100	6,200	5,900	

Above Items Are Only Sold As A Kit

Not Individual Standards

Kit Price\* - 200mg of each standard listed

## Pullulan (Narrow MWD)

Price per Individual Standard: \$200/200mg

Catalog #	Mp	Mw	Mn	IV*
P70K	65,000	70,000	47,000	0.341
P97K	95,000	97,100	64,900	0.403
P105K	98,000	105,000	63,000	0.417
P130K	126,100	132,600	81,200	0.542
P160K	166,600	164,900	109,900	0.570
P175K	172,600	175,500	109,000	0.596
P192K	186,300	191,800	124,000	0.566
P200K	202,900	202,100	134,000	0.683
P215K	218,900	217,300	146,000	0.675
P256K	250,000	256,500	160,000	0.706
P270K	273,700	273,700	179,300	0.784
P290K	285,100	293,500	189,900	0.861
P300K	294,400	306,300	188,200	0.889
P325K	299,000	325,700	192,700	0.900
P360K	336,400	360,400	221,700	0.955
P580K	501,600	586,800	365,300	1.377
P650K	483,100	657,900	322,400	1.408
P760K	596,300	762,300	381,000	1.464
P825K	610,000	825,300	444,900	1.631

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for P (a = 0.665; K = 0.000201)

## Pullulan (Broad MWD)

Price per Individual Standard: \$187/1.0g

Catalog #	Mw	Mn	Mz	IV*
PBR290K	290,000	36,600	790,800	0.673
PBR115K	114,900	45,200	178,600	0.467
PBR30K	30,800	12,400	52,800	0.224

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for PBR (a = 0.665; K = 0.000201)

## Polyvinyl Alcohol (98% Hydrolyzed)

Price per Individual Standard: \$187/1.0g

Catalog #	Mp	Mw	Mn	IV*
PVOH200K	134,600	200,000	95,600	0.980
PVOH170K	120,100	170,500	84,600	0.925
PVOH165K	100,200	167,500	60,400	0.907
PVOH137K	93,400	137,100	63,700	0.770
PVOH122K	85,700	122,400	60,100	0.765
PVOH102K	81,100	102,600	43,100	0.720
PVOH82K	58,500	82,600	41,500	0.607
PVOH55K	33,900	55,000	21,000	0.438
PVOH35K	24,500	35,000	16,600	0.376
PVOH28K	22,000	28,000	9,200	0.370
PVOH7K	5,600	7,200	4,200	0.173
PVOH5K	4,500	5,800	3,400	0.167

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C  
a & K values for PVOH (a = 0.53; K = 0.00174)

## Carboxymethyl Cellulose - Na Salt

Price per Individual Standard: \$187/1.0g

Catalog #	Mw	Mn	Mz	IV*
CMC1	111,600	66,000	203,800	6.0042
CMC2	111,400	47,700	405,500	2.0056
CMC3	109,200	49,500	342,900	2.2394

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C

## Hydroxypropyl Methycellulose

Price per Individual Standard: \$234/1.0g

Catalog #	Mw	Mn	Mz	IV*
HPMC100K	94,200	27,000	256,900	3.143
HPMC60K	62,700	23,200	171,600	2.755

IV\* - Intrinsic Viscosity (dL/g) in 0.1M Sodium Nitrate; 0.1% ethylene glycol at 30°C

## Polyvinylpyrrolidone

Price per Individual Standard: \$187/1.0g

Catalog #	Mw	Mn	Mz	IV*
PVPR3500K	3,500,000	331,000	12,150,000	2.871
PVPR1500K	1,500,000	230,000	5,550,000	1.600
PVPR1260K	1,260,000	223,000	4,000,000	1.329
PVPR1065K	1,065,000	165,000	4,000,000	1.351
PVPR500K	506,900	66,450	1,843,000	0.726
PVPR400K	412,500	70,500	1,214,000	0.643
PVPR108K	108,700	20,000	320,000	0.256
PVPR95K	94,700	11,900	232,000	0.221
PVPR84K	84,200	15,800	285,000	0.236
PVPR66K	65,900	8,000	170,000	0.164
PVPR22K	22,100	3,000	55,000	0.090
PVPR17K	16,800	2,200	31,800	0.085
PVPR14K	14,400	1,325	33,600	0.100
PVPR5K	5,500	2,600	9,500	0.061
PVPR4K	4,300	1,500	7,400	0.054

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate at 30°C

## Poly (allylamine) Hydrochloride (Cationic - Broad MWD)

Price per Individual Standard: \$220/1.0g

Catalog #	Mw	Mn	Mz	IV*
PAAH100K	99,300	57,100	175,000	0.540
PAAH35K	35,000	24,500	53,000	0.255

IV\* - Intrinsic Viscosity (dL/g) in 1% Acetic Acid;  
0.3M Sodium Chloride at 30°C

## Chitosan (Cationic - Broad MWD)

Price per Individual Standard: \$260/1.0g

Catalog #	Mw	Mn	Mz	IV*
CH141K	141,400	33,700	300,600	4.508
CH160K	160,800	28,400	378,800	5.613
CH217K	217,600	47,400	375,000	9.473
CH218K	218,100	27,000	506,400	6.703
CH326K	326,700	99,400	486,200	9.765

IV\* - Intrinsic Viscosity (dL/g) in 5% Acetic Acid;  
0.3M Sodium Chloride at 30°C

# American Polymer Standards Corporation

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## Hydroxypropyl Cellulose

Price per Individual Standard: \$220/250mg

Catalog #	Mp	Mw	Mn	IV*
HPC50K	49,000	55,700	28,800	1.895
HPC35K	34,000	37,500	21,900	1.285
HPC30K	30,000	32,400	18,800	1.095
HPC25K	26,750	29,500	17,900	0.975
HPC20K	18,700	20,500	12,700	0.630
HPC15K	15,250	17,000	10,400	0.530
HPC10K	11,200	12,000	7,200	0.370

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate,  
pH = 7.0 at 30°C

## Hydroxypropyl Cellulose (Broad MWD)

Price per Individual Standard: \$220/1.0g

Catalog #	Mw	Mn	IV*
BHPC865K	865,000	190,000	12.780
BHPC637K	637,000	105,500	9.464
BHPC570K	570,000	145,500	7.990
BHPC557K	557,500	125,000	9.039
BHPC486K	486,900	110,000	7.479
BHPC388K	388,000	95,000	5.422
BHPC290K	288,200	38,700	2.930
BHPC205K	205,600	62,500	3.348
BHPC188K	187,600	38,900	2.750
BHPC153K	153,500	48,200	3.432
BHPC93K	93,000	39,600	2.325
BHPC86K	86,300	34,900	2.450
BHPC80K	81,500	14,700	1.725
BHPC72K	71,800	29,000	1.898
BHPC70K	69,900	29,800	1.191
BHPC57K	56,900	28,900	1.890
BHPC55K	56,200	11,100	1.245
BHPC50K	50,500	24,600	1.495
BHPC30K	31,600	16,500	0.810

IV\* - Intrinsic Viscosity (dL/g) in 0.05M Sodium Sulfate,  
pH = 7.0 at 30°C

## Xanthan

Price per Individual Standard: \$200/250mg

Catalog #	Mw	Mn	Mz	IV*
XNT5000K	4,500,000	4,000,000	5,000,000	0.880

IV\* - Intrinsic Viscosity (dL/g) in 0.1M Sodium Nitrate; 0.1%  
ethylene glycol at 30°C

## Poly (2 - Vinylpyridine) (Cationic - Narrow MWD)

Price per Individual Standard: \$133/250mg

Catalog #	Mp	Mw	Mn	IV*
PVP1250K	1,250,000	1,300,000	825,000	10.382
PVP550K	550,000	570,000	390,000	5.050
PVP250K	250,000	275,000	165,000	2.625
PVP160K	160,000	170,000	96,300	1.733
PVP155K	155,000	151,000	116,600	1.618
PVP150K	145,600	159,000	114,400	1.650
PVP80K	75,000	88,600	59,100	0.859
PVP70K	68,000	70,000	58,300	0.786
PVP35K	35,000	34,700	24,100	0.398
PVP12K	12,300	12,800	9,200	0.156
PVP7K	7,500	7,600	5,600	0.098
PVP3K	2,900	3,300	2,550	0.045

IV\* - Intrinsic Viscosity (dL/g) in 0.1M Sodium Formate at 25°C  
a & K values for PVP (a = 0.93; K = 0.000025)

## Poly (2 - Vinylpyridine) (Cationic - Broad MWD)

Price per Individual Standard: \$200/1.0g

Catalog #	Mw	Mn	Mz	IV*
PVP400K	400,000	72,500	650,000	0.50
PVP188K	188,000	58,000	285,000	0.45
PVP79K	79,200	26,500	170,000	0.29
PVP45K	45,000	20,000	80,000	0.17

## Guar Gum

Price per Individual Standard: \$200/250mg

Catalog #	Mw	Mn	Mz	IV*
GG9600K	9,590,000	3,150,000	14,900,000	1.296

IV\* - Intrinsic Viscosity (dL/g) 0.1M Sodium Nitrate;  
0.1M pH Buffer, pH = 7.0 at 30°C

# American Polymer Standards Corporation

8680 Tyler Blvd., Mentor, OH 44060

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## Gel Permeation Chromatography: Conventional

### Information included in final report:

Formal report with Mn, Mw, Mz and MWD relative to available MWD standards, Calibration curve, One (1) MWD chromatogram per sample, One (1) DRI chromatogram per sample & One (1) summary report per sample injection. (3 injections are taken from each sample)

Should additional information be needed than what is listed above please contact us for prices.

### Turnaround Time:

7 business days from receipt of the sample(s)

Solvent	First Sample	Additional Sample sent at same time
THF	\$424	\$363
Toluene	\$545	\$424
Chloroform	\$545	\$424
Methylene Chloride	\$545	\$424
Methanol	\$545	\$424
Water	\$545	\$424
DMF	\$665	\$484
DMAC	\$665	\$484
NMP	\$665	\$484
DMSO	\$665	\$484
TCB	\$787	\$605
HFIP	\$1,150	\$787
Recalculation or Additional Calculations of Data		\$100
Additional Chromatograms, including overlays		\$25

Any requests for additional information after two (2) weeks of receiving the final report can be charges at a rate of \$100/hour.

### Express service: (for most samples)

48 business hours from receipt of the sample(s);

50% surcharge on total invoice price

### Quantity discount:

Available for 10 or more samples, sent at the same time.

Please contact us for prices.

## Multi-Angle Laser Light Scattering

Determination of Weight Average Molecular Weight of Organic and Water Soluble Polymers by MALLS

**Instrumentation:** Wyatt Dawn

### Principle of Operation:

A solution is injected into a chromatography system with the MALLS instrument and a refractometer. The intensity of the scattered light is proportional to the molecular weight. The weight average can be calculated using a known  $dn/dc$  value, a specific refractive index increment of the solute-solvent mixture and a known concentration.

### Molecular Weight Range:

Organic Solvent (Above 10,000 g/mol)

Aqueous Solvent (Above 10,000 g/mol)

### Temperature Range:

Room Temperature

### Turnaround Time:

7 business days from receipt of the sample(s)

### Price:

\$1,815.00 for the first sample

\$1,210.00 for each additional sample

(For samples received at the same time; using the same operating conditions)