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Chemicals - Technical Library

Particle Size Conversion Table

	Sieve Designation		Nominal Sieve Opening		
	<i>Standard</i>	<i>Mesh</i>	<i>inches</i>	<i>mm</i>	<i>Microns</i>
Chemistry Products					
New Chemistry Products					
Chemical Synthesis					
Classical Lab Chemicals	25.4 mm	1 in.	1.00	25.4	25400
Discovery Chemistry & Services	22.6 mm	7/8 in.	0.875	22.6	22600
	19.0 mm	3/4 in.	0.750	19.0	19000
Flavors & Fragrances	16.0 mm	5/8 in.	0.625	16.0	16000
	13.5 mm	0.530 in.	0.530	13.5	13500
Greener Alternatives	12.7 mm	1/2 in.	0.500	12.7	12700
	11.2 mm	7/16 in.	0.438	11.2	11200
Medicinal Chemistry	9.51 mm	3/8 in.	0.375	9.51	9510
	8.00 mm	5/16 in.	0.312	8.00	8000
Products for the Petrochemical Industry	6.73 mm	0.265 in.	0.265	6.73	6730
	6.35 mm	1/4 in.	0.250	6.35	6350
Phosphoramidites and Reagents	5.66 mm	No.3 1/2	0.223	5.66	5660
	4.76 mm	No. 4	0.187	4.76	4760
Production Materials	4.00 mm	No. 5	0.157	4.00	4000
	3.36 mm	No. 6	0.132	3.36	3360
Solvent Center	2.83 mm	No. 7	0.111	2.83	2830
	2.38 mm	No. 8	0.0937	2.38	2380
Stable Isotopes	2.00 mm	No. 10	0.0787	2.00	2000
	1.68 mm	No. 12	0.0661	1.68	1680
Stockroom Reagents	1.41 mm	No. 14	0.0555	1.41	1410
	1.19 mm	No. 16	0.0469	1.19	1190
Chemical Products	1.00 mm	No. 18	0.0394	1.00	1000
Learning Center	0.841 mm	No. 20	0.0331	0.841	841
Lab Basics Technical Library	0.707 mm	No. 25	0.0278	0.707	707
Concentrations of Acids & Bases	0.595 mm	No. 30	0.0234	0.595	595
Mass Molarity Calculator	0.500 mm	No. 35	0.0197	0.500	500
Normality & Molarity Calculator	0.420 mm	No. 40	0.0165	0.420	420
Particle Size Conversion	0.354 mm	No. 45	0.0139	0.354	354
Properties of Solvents	0.297 mm	No. 50	0.0117	0.297	297
Solution Dilution Calculator	0.250 mm	No. 60	0.0098	0.250	250
Syringe Needle Gauge Chart	0.210 mm	No. 70	0.0083	0.210	210
Wire Gauge Chart	0.177 mm	No. 80	0.0070	0.177	177
Product Highlights	0.149 mm	No. 100	0.0059	0.149	149
	0.125 mm	No. 120	0.0049	0.125	125
	0.105 mm	No. 140	0.0041	0.105	105
	0.088 mm	No. 170	0.0035	0.088	88
Synthia™ Organic Retrosynthesis Software	0.074 mm	No. 200	0.0029	0.074	74
	0.063 mm	No. 230	0.0025	0.063	63
Labware	0.053 mm	No. 270	0.0021	0.053	53
	0.044 mm	No. 325	0.0017	0.044	44
Materials Science	0.037 mm	No. 400	0.0015	0.037	37
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Large sieve openings (1 in. to 1/4 in.) have been designated by a sieve "mesh" size that corresponds to the size of the opening in inches. Small sieve "mesh" sizes of 3 1/2 to 400 are designated by the number of openings per linear inch in the sieve.

The following convention is used to characterize particle size by mesh designation:

- "+" before the sieve mesh indicates the particles are retained by the sieve;
- "-" before the sieve mesh indicates the particles pass through the sieve;
- typically 90% or more of the particles will lie within the indicated range.


For example, if the particle size of a material is described as -4 +40 mesh, then 90% or more of the material will pass through a 4-mesh sieve (particles smaller than 4.76 mm) and be retained by a 40-mesh sieve (particles larger than 0.420 mm). If a material is described as -40 mesh, then 90% or more of the material will pass through a 40-mesh sieve (particles smaller than 0.420 mm).

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