



Our Formula. Your Success.

Pharmaceutical Reference Standards Degradants & Impurities

- Alkali metals
- Noble gases
- Post-transition metals
- Metalloids
- Alkaline earth metals
- Halogens
- Lanthanides
- Transition metals
- Nonmetals
- Actinides

1 H Hydrogen 1.008																	2 He Helium 4.003											
3 Li Lithium 6.941	4 Be Beryllium 9.012																	10 Ne Neon 20.180										
11 Na Sodium 22.990	12 Mg Magnesium 24.305																	18 Ar Argon 39.948										
19 K Potassium 39.098	20 Ca Calcium 40.078	21 Sc Scandium 44.956	22 Ti Titanium 47.867	23 V Vanadium 50.942	24 Cr Chromium 51.996	25 Mn Manganese 54.938	26 Fe Iron 55.845	27 Co Cobalt 58.933	28 Ni Nickel 58.693	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Al Aluminium 26.982	32 Si Silicon 28.086	33 P Phosphorus 30.974	16 S Sulfur 32.065	17 Cl Chlorine 35.453	8 O Oxygen 15.999	9 F Fluorine 18.998	36 Kr Krypton 83.798									
37 Rb Rubidium 85.468	38 Sr Strontium 87.62	39 Y Yttrium 88.906	40 Zr Zirconium 91.224	41 Nb Niobium 92.906	42 Mo Molybdenum 95.96	43 Tc Technetium [98]	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.906	46 Pd Palladium 106.42	47 Ag Silver 107.868	48 Cd Cadmium 112.411	49 In Indium 114.818	50 Sn Tin 118.710	51 Sb Antimony 121.760	52 Te Tellurium 127.60	53 I Iodine 126.904	84 Po Polonium [209]	54 Xe Xenon 131.293	85 At Astatine [210]	86 Rn Radon [222]								
55 Cs Cesium 132.905	56 Ba Barium 137.327	57-71 La-Lu Lanthanides	72 Hf Hafnium 178.49	73 Ta Tantalum 180.948	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.217	78 Pt Platinum 195.084	79 Au Gold 196.967	80 Hg Mercury 200.59	81 Tl Thallium 204.383	82 Pb Lead 207.2	83 Bi Bismuth 208.980	84 Po Polonium [209]	85 At Astatine [210]	86 Rn Radon [222]	117 Uus Ununseptium [292]	118 Uuo Ununoctium [294]									
87 Fr Francium [223]	88 Ra Radium [226]	89-103 Ac-Lr Actinides	104 Rf Rutherfordium [261]	105 Db Dubnium [268]	106 Sg Seaborgium [271]	107 Bh Bohrium [272]	108 Hs Hassium [270]	109 Mt Meitnerium [276]	110 Ds Darmstadtium [281]	111 Rg Roentgenium [280]	112 Cn Copernicium [285]	113 Uut Ununtrium [284]	114 Uuq Ununquadium [289]	115 Uup Ununpentium [288]	116 Uuh Ununhexium [293]	117 Uus Ununseptium [292]	118 Uuo Ununoctium [294]	69 Tm Thulium 168.934	70 Yb Ytterbium 173.054	71 Lu Lutetium 174.967								
		57 La Lanthanum 138.905	58 Ce Cerium 140.116	59 Pr Praseodymium 140.908	60 Nd Neodymium 144.242	61 Pm Promethium [145]	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.925	66 Dy Dysprosium 162.500	67 Ho Holmium 164.930	68 Er Erbium 167.259	69 Tm Thulium 168.934	70 Yb Ytterbium 173.054	71 Lu Lutetium 174.967	92 U Uranium 238.029	93 Np Neptunium [237]	94 Pu Plutonium [244]	95 Am Americium [243]	96 Cm Curium [247]	97 Bk Berkelium [247]	98 Cf Californium [251]	99 Es Einsteinium [252]	100 Fm Fermium [257]	101 Md Mendelevium [258]	102 No Nobelium [259]	103 Lr Lawrencium [262]

Atomic No.
Symbol
Element name
Atomic Mass

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Properties of Solvents

Solvent	Boiling Point (°C)	Refractive Index (20°C)	Density (^g /cm ³)	Flash Point (°C)	Viscosity (cP, 20°C)	Electropic Value (Silica)	UV Cutoff (nm)(**)
Acetone	56	1.359	0.791	-17	0.32	0.43	330
Acetonitrile	82	1.344	0.786	5	0.37	0.50	190
1-Butanol	117.7	1.399	0.81	35	2.948	-	215
2-Butanone	80	1.379	0.805	-3	0.43	0.39	330
Butyl acetate	124-126	1.394	0.882	22	0.732	-	254
tert-Butyl methyl ether	55-56	1.3692	0.740	-10	-	0.29	-
Carbon disulfide	46	1.627	1.266	-33	0.37	-	380
Chlorobenzene	132	1.524	1.107	23	0.80	-	287
1-Chlorobutane	77-78	1.4024	0.886	-6	0.35	-	225
Chloroform	60.5-61.5	1.446	1.492	none	0.57	0.31	245
Cyclohexane	80.7-81	1.426	0.779	-18	1.02	0.03	200
Cyclopentane	50	1.404	0.751	-37	0.47	-	200
1,2-Dichloroethane	83	1.4438	1.256	15	0.79	-	225
Dichloromethane	39.8-40	1.424	1.325	none	0.44	0.32	235
N,N-Dimethylacetamide	164.5-166	1.438	0.937	70	-	-	268
N,N-Dimethylformamide	153	1.431	0.944	57	0.92	-	268
1,4-Dioxane	100-102	1.422	1.034	12	1.54	-	215
Ether	34.6	1.353	0.708	-40	0.23	0.29	215
Ethyl acetate	76.5-77.5	1.372	0.902	-3	0.45	0.45	260
Ethyl alcohol	78	1.361	0.785	8	1.20	-	210
Ethylene glycol dimethyl ether	85	1.3791	0.867	0	-	-	220
Heptane	98	1.387	0.684	-1	-	0.00	200
Hexane	69	1.375	0.659	-23	0.33	0.00	200
Hexanes	68-69	1.379	0.67	-22	-	0.00	200
2-Methoxyethanol	124-125	1.402	0.965	46	1.72	-	220
2-Methoxyethyl acetate	145	1.402	1.009	43	-	-	254
Methyl alcohol	64.6	1.329	0.791	11	0.60	0.73	205
Methyl sulfoxide	189	1.479	1.101	95	2.24	-	268
Nitromethane	100.8-101	1.382	1.127	35	0.67	-	380
Pentane	35-36	1.358	0.626	-49	0.23	0.00	200
1-Propanol	97	1.384	0.804	15	2.256	-	210
2-Propanol	82.4	1.377	0.785	22	2.30	0.63	210
Pyridine	115	1.509	0.978	20	0.94	0.55	305
Tetrahydrofuran	67	1.407	0.886	-17	0.55	0.35	215
Toluene	111	1.496	0.867	4	0.59	0.22	285
1,1,2-Trichlorofluoroethane	47-48	1.3578	1.575	none	0.69	0.02	230
2,2,4-Trimethylpentane	98-99	1.391	0.692	-7	0.50	0.01	215
Water	100	-	0.998	none	1.00	>0.73	185

* At 20°C relative to water at 4°C.

** Wavelength at which absorbance is 1AU for a good LC-grade solvent