Periodic Table of the Elements

Finar Limited

FINAR

ISO 9001 : 2008
ISO 14001 : 2004 &
OHSAS 18001 : 2007 Certified

Key	Example
Atomic number	47
Element Symbol	Ag
Relative atomic mass	107.87
Melting point (°C)	961.9
Boiling point (°C)	2212
Electronegativity (Allred, Rochow)	1.4
Density, solids in g/cc, gases in g/l	10.49
Atomic radius (pm)	144 pm
Ionisation potential eV	7.576
Oxidation states (Bold most stable)	**1**,2
Electron configuration	[Kr]4d^{10} 5s^{1}
	SILVER

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

Atomic number	Symbol	Name	Atomic mass	Melting point (°C)	Boiling point (°C)	Electronegativity	Density	Atomic radius (pm)	Ionisation potential eV	Oxidation states	Electron configuration
1	H	HYDROGEN	1.0079	-259.14	-252.87	2.2	0.09	78 pm	13.598	-1,**1**	1s^{1}
2	He	HELIUM	4.0026	<-272.2	-268.93		0.18	128 pm	24.587	+1(gas)	1s^{2}
3	Li	LITHIUM	6.941	180.54	1347	1.0	0.53	157 pm	5.392	**1**	[He]2s^{1}
4	Be	BERYLLIUM	9.0122	1278	2970	1.5	1.85	112 pm	9.322	2	[He]2s^{2}
5	B	BORON	10.811	2079	2550	2.0	2.47	88 pm	8.298	**3**	[He]2s^{2} 2p^{1}
6	C	CARBON	12.011	3367	4827	2.5	2.27	77 pm	11.260	-4,2,**4**	[He]2s^{2} 2p^{2}
7	N	NITROGEN	14.007	-209.86	-195.8	3.1	1.25	74 pm	14.534	**-3**,2,3,4,5	[He]2s^{2} 2p^{3}
8	O	OXYGEN	15.999	-218.4	-182.96	3.5	1.43	66 pm	13.618	**-2**,-1	[He]2s^{2} 2p^{4}
9	F	FLUORINE	18.998	-219.62	-188.14	4.1	1.7	64 pm	17.422	**-1**	[He]2s^{2} 2p^{5}
10	Ne	NEON	20.197	-248.67	-246.05		0.9		21.564	+1(gas)	[He]2s^{2} 2p^{6}
11	Na	SODIUM	22.990	97.81	882.9	1.0	0.97	191 pm	5.139	**1**	[Ne]3s^{1}
12	Mg	MAGNESIUM	24.305	648.8	1090	1.2	1.74	160 pm	7.646	**2**	[Ne]3s^{2}
13	Al	ALUMINIUM	26.982	660.37	2467	1.5	2.70	143 pm	5.986	**3**	[Ne]3s^{2} 3p^{1}
14	Si	SILICON	28.086	1410	2355	1.7	2.33	118 pm	8.151	**4**	[Ne]3s^{2} 3p^{2}
15	P	PHOSPHOROUS	30.974	44.1	280	2.1	1.82	110 pm	10.486	-3,3,**5**	[Ne]3s^{2} 3p^{3}
16	S	SULPHUR	32.066	112.8	444.67	2.4	2.09	104 pm	10.360	-2,2,4,**6**	[Ne]3s^{2} 3p^{4}
17	Cl	CHLORINE	35.453	-100.98	-34.6	2.8	3.21	99 pm	12.967	**-1**,1,3,5,7	[Ne]3s^{2} 3p^{5}
18	Ar	ARGON	39.948	-189.2	-185.7		1.78	174 pm	15.759	+1(gas)	[Ne]3s^{2} 3p^{6}
19	K	POTASSIUM	39.098	63.65	774	0.9	0.86	235 pm	4.341	**1**	[Ar]4s^{1}
20	Ca	CALCIUM	40.078	839	1484	1.0	1.53	197 pm	6.113	**2**	[Ar]4s^{2}
21	Sc	SCANDIUM	44.956	1541	2831	1.2	2.99	164 pm	6.54	**3**	[Ar]3d^{1} 4s^{2}
22	Ti	TITANIUM	47.88	1660	3287	1.3	4.55	147 pm	6.82	3,**4**	[Ar]3d^{2} 4s^{2}
23	V	VANADIUM	50.942	1890	3380	1.5	6.11	135 pm	6.74	2,3,4,**5**	[Ar]3d^{3} 4s^{2}
24	Cr	CHROMIUM	51.996	1857	2672	1.6	7.19	129 pm	6.766	2,**3**,6	[Ar]3d^{5} 4s^{1}
25	Mn	MANGANESE	54.938	1244	1962	1.6	7.47	137 pm	7.435	**2**,3,4,6,7	[Ar]3d^{5} 4s^{2}
26	Fe	IRON	55.847	1535	2750	1.6	7.87	124 pm	7.870	2,**3**,6	[Ar]3d^{6} 4s^{2}
27	Co	COBALT	58.933	1495	2870	1.7	8.8	125 pm	7.86	**2**,3	[Ar]3d^{7} 4s^{2}
28	Ni	NICKEL	58.69	1453	2732	1.8	8.91	125 pm	7.635	**2**,3	[Ar]3d^{8} 4s^{2}
29	Cu	COPPER	63.546	1083	2567	1.8	8.93	128 pm	7.726	1,**2**	[Ar]3d^{10} 4s^{1}
30	Zn	ZINC	65.39	419.6	907	1.7	7.14	137 pm	9.394	**2**	[Ar]3d^{10} 4s^{2}
31	Ga	GALLIUM	69.723	29.78	2403	1.8	5.91	153 pm	5.999	**3**	[Ar]3d^{10} 4s^{2}4p^{1}
32	Ge	GERMANIUM	72.61	937.4	2830	2.0	5.32	122 pm	7.899	**4**	Ar 3d^{10} 4s^{2}4p^{2}
33	As	ARSENIC	74.922	817	613	2.2	5.78	121 pm	9.81	-3,**3**,5	[Ar]3d^{10} 4s^{2}4p^{3}
34	Se	SELENIUM	78.96	217	684.9	2.5	4.81	117 pm	9.752	-2,**4**,6	[Ar]3d^{10} 4s^{2}4p^{4}
35	Br	BROMINE	79.904	-7.2	58.78	2.7	3.12	114 pm	11.814	**-1**,1,3,5,7	[Ar]3d^{10} 4s^{2}4p^{5}
36	Kr	KRYPTON	83.80	-156.6	-152.3		3.73	88 pm	13.999	+1(gas)	[Ar]3d^{10} 4s^{2}4p^{6}
37	Rb	RUBIDIUM	85.468	38.89	688	0.9	1.53	250 pm	4.177	,**1**	[Kr]5s^{1}
38	Sr	STRONTIUM	87.62	769	1384	1.0	2.58	215 pm	5.695	**2**	[Kr]5s^{2}
39	Y	YTTRIUM	88.906	1522	3338	1.1	4.48	182 pm	6.38	**3**	[Kr]4d^{1} 5s^{2}
40	Zr	ZIRCONIUM	91.224	1852	4377	1.2	6.51	160 pm	6.84	**4**	[Kr]4d^{2} 5s^{2}
41	Nb	NIOBIUM	92.906	2468	4742	1.2	8.57	147 pm	6.88	3,**5**	[Kr]4d^{4} 5s^{1}
42	Mo	MOLYBDENUM	95.94	2617	4612	1.3	10.22	140 pm	7.099	2,3,4,5,**6**	[Kr]4d^{5} 5s^{1}
43	Tc	TECHNETIUM	*98.906	2172	4877	1.4	11.5	135 pm	7.28	**7**	[Kr]4d^{6} 5s^{1}
44	Ru	RUTHENIUM	101.07	2310	3900	1.4	12.36	134 pm	7.37	**3**,4,8	[Kr]4d^{7} 5s^{1}
45	Rh	RHODIUM	102.91	1966	3727	1.5	12.42	134 pm	7.46	1,2,**3**,4	[Kr]4d^{8} 5s^{1}
46	Pd	PALLADIUM	106.42	1552	3140	1.4	12.00	137 pm	8.34	**2**,4	[Kr]4d^{10}
47	Ag	SILVER	107.87	961.9	2212	1.4	10.5	144 pm	7.576	**1**,2	[Kr]4d^{10} 5s^{1}
48	Cd	CADMIUM	112.41	320.9	765	1.5	8.65	152 pm	8.993	**2**,4	[Kr]4d^{10} 5s^{1}
49	In	INDIUM	114.82	156.6	2080	1.5	7.29	167 pm	5.786	**3**	[Kr]4d^{10} 5s^{2} 5p^{1}
50	Sn	TIN	118.71	232.0	2270	1.7	7.29	158 pm	7.344	**2**,4	[Kr]4d^{10} 5s^{2} 5p^{2}
51	Sb	ANTIMONY	121.75	630.7	1750	1.8	6.69	141 pm	8.641	-3,**3**,5	[Kr]4d^{10} 5s^{2} 5p^{3}
52	Te	TELLURIUM	127.60	449.5	990	2.0	6.25	137 pm	9.009	-2,**4**,6	[Kr]4d^{10} 5s^{2} 5p^{4}
53	I	IODINE	126.90	113.5	184.4	2.2	4.95	133 pm	10.451	**-1**,1,3,5,7	[Kr]4d^{10} 5s^{2} 5p^{5}
54	Xe	XENON	131.29	-111.9	-107.1		5.9	218 pm	12.130	+1(gas)	[Kr]4d^{10} 5s^{2} 5p^{6}
55	Cs	CESIUM	28.40	678.4	0.9	1.87		272 pm	3.894	**1**	[Xe]6s^{1}
56	Ba	BARIUM	725	1640	1.0	3.59		224 pm	5.212	**2**	[Xe]6s^{2}
57–71	Lanthanides										
72	Hf	HAFNIUM	2227	4602	1.2	13.28		159 pm	6.65	**4**	[Xe]4f^{14} 5d^{2} 6s^{2}
73	Ta	TANTALUM	2996	5425	1.3	16.67		147 pm	7.89	**5**	[Xe]4f^{14} 5d^{3} 6s^{2}
74	W	TUNGSTEN	3410	5660	1.4	19.3		141 pm	7.98	2,3,4,5,**6**	[Xe]4f^{14} 5d^{4} 6s^{2}
75	Re	RHENIUM	3180	5627	1.5	21.02		137 pm	7.88	2,4,**7**	[Xe]4f^{14} 5d^{5} 6s^{2}
76	Os	OSMIUM	3045	5027	1.5	22.58		135 pm	8.7	2,3,**4**,6,8	[Xe]4f^{14} 5d^{6} 6s^{2}
77	Ir	IRIDIUM	2410	4130	1.6	22.56		136 pm	9.1	1,2,**3**,4,6	[Xe]4f^{14} 5d^{7} 6s^{2}
78	Pt	PLATINUM	1772	3827	1.6	21.45		139 pm	9.0	2,**4**	[Xe]4f^{14} 5d^{9} 6s^{1}
79	Au	GOLD	1064	2807	1.4	19.28		144 pm	9.225	1,**3**	[Xe]4f^{14} 5d^{10} 6s^{1}
80	Hg	MERCURY	-38.84	356.6	1.5	13.55		155 pm	10.437	1,**2**	[Xe]4f^{14} 5d^{10} 6s^{2}
81	Tl	THALLIUM	303.5	1457	1.4	11.87		171 pm	6.108	1,**3**	[Xe]4f^{14} 5d^{10} 6s^{2}6p^{1}
82	Pb	LEAD	327.5	1740	1.6	11.34		175 pm	7.416	**2**,4	[Xe]4f^{14} 5d^{10} 6s^{2}6p^{2}
83	Bi	BISMUTH	271.3	1560	1.7	8.9		182 pm	7.289	**3**,5	[Xe]4f^{14} 5d^{10} 6s^{2}6p^{3}
84	Po	POLONIUM	254	962	1.8	9.4		* 208.88	8.42	2,4,6	[Xe]4f^{14} 5d^{10} 6s^{2}6p^{4}
85	At	ASTAINE	302	337	2.0			* 209.99		**-1**,1,3,5,7	[Xe]4f^{14} 5d^{10} 6s^{2}6p^{5}
86	Rn	RADON	-71	-61.8		9.73		* 222.02	10.748		[Xe]4f^{14} 5d^{10} 6s^{2}6p^{6}
87	Fr	FRANCIUM	* 223.02	27.00	677.00	0.9	1.0	270 pm	3.8	**1**	[Rn]7s^{1}
88	Ra	RADIUM	226.03	700	1140	1.0	5.00	223 pm	5.279	**2**	[Rn]7s^{2}
89–103	Actinides										
104	Rf	RUTHERFORDIUM	* 261.11	2673	6073			150 pm			[Rn] 5f^{14} 6d^{2} 7s^{2}
105	Db	DUBNIUM	* 262.114			29.0		139 pm			[Rn] 5f^{14} 6d^{3} 7s^{2}
106	Sg	SEABORGIUM	* 266					132 pm			[Rn] 5f^{14} 6d^{4} 7s^{2}
107	Bh	BOHRIUM	* 264					128 pm			[Rn] 5f^{14} 6d^{5} 7s^{2}
108	Hs	HASSIUM	* 265					126 pm			[Rn] 5f^{14} 6d^{6} 7s^{2}
109	Mt	MEITNERIUM	* 266								[Rn] 5f^{14} 6d^{7} 7s^{2}
110	Ds	DARMSTADTIUM	* 271								[Rn] 5f^{14} 6d^{8} 7s^{2}
111	Rg	ROENTGENUIM	* 272								[Rn] 5f^{14} 6d^{10} 7s^{1}
112	Uub	UNUNBIUM	* 285								[Rn] 5f^{14} 6d^{10} 7s^{2}
113	Uut										
114	Fl	FLEROVIUM	289								[Rn] 5f^{14} 6d^{10} 7s^{2}7p^{2}
115	Uup										
116	Lv	LIVERMORIUM	292								[Rn] 5f^{14} 6d^{10} 7s^{2}7p^{4}
117	Uus										
118	Uuo	UNUNOCTIUM									[Rn] 5f^{14} 6d^{10} 7s^{2}7p^{6}
57	La	LANTHANUM	138.91	921	3457	1.1	6.17	188 pm	5.577	**3**	[Xe]5d^{1} 6s^{2}
58	Ce	CERIUM	140.12	799	3426	1.1	6.71	183 pm	5.47	3,**4**	[Xe]4f^{1} 6s^{2}
59	Pr	PRASEODYMIUM	140.91	931	3512	1.1	6.78	183 pm	5.42	3,**4**	[Xe]4f^{3} 6s^{2}
60	Nd	NEODYMIUM	144.24	1021	3068	1.1	7.00	182 pm	5.49	**3**	[Xe]4f^{4} 6s^{2}
61	Pm	PROMETHIUM	* 146.92	1168	2460	1.1	7.22	181 pm	5.55	**3**	[Xe]4f^{5} 6s^{2}
62	Sm	SAMARIUM	150.36	1077	1791	1.1	7.54	180 pm	5.63	2,**3**	[Xe]4f^{6} 6s^{2}
63	Eu	EUROPIUM	151.97	822	1597	1.0	5.25	204 pm	5.666	2,**3**	[Xe]4f^{7} 6s^{2}
64	Gd	GADOLINIUM	157.25	1313	3266	1.1	7.87	180 pm	6.14	2,**3**	[Xe]4f^{7} 5d^{1} 6s^{2}
65	Tb	TERBIUM	158.93	1356	3123	1.1	8.27	178 pm	5.85	**3**,4	[Xe]4f^{9} 6s^{2}
66	Dy	DYSPROSIUM	162.50	1412	2562	1.1	8.53	177 pm	5.928	**3**	[Xe]4f^{10} 6s^{2}
67	Ho	HOLMIUM	164.93	1474	2695	1.1	8.8	177 pm	6.02	**3**	[Xe]4f^{11} 6s^{2}
68	Er	ERBIUM	167.26	1497	2900	1.1	9.05	226 pm	6.10	**3**	[Xe]4f^{12} 6s^{2}
69	Tm	THULIUM	168.93	1545	1947	1.1	9.33	222 pm	6.1844	2,**3**	[Xe]4f^{13} 6s^{2}
70	Yb	YTTERBIUM	173.04	819	1194	1.1	6.97	222 pm	6.2539	2,**3**	[Xe]4f^{14} 6s^{2}
71	Lu	LUTETIUM	174.97	1663	3395	1.1	9.84	217 pm	5.459	**3**	[Xe]4f^{14} 5d^{1} 6s^{2}
89	Ac	ACTINIUM	* 227.03	1050	3200	1.0	10.07	188 pm	5.17	**3**	[Rn]6d^{1} 7s^{2}
90	Th	THORIUM	* 232.04	1750	4790	1.1	11.73	180 pm	6.08	**4**	[Rn]6d^{2} 7s^{2}
91	Pa	PROTACTINIUM	* 231.04	1600		1.1	15.37	161 pm	5.89	4,**5**	[Rn]5f^{2} 6d^{1} 7s^{2}
92	U	URANIUM	* 238.03	1132	3818	1.2	18.95	138 pm	6.05	3,4,5,**6**	[Rn]5f^{3} 6d^{1} 7s^{2}
93	Np	NEPTUNIUM	* 237.05	640	3902	1.2	20.45	131 pm	6.19	3,4,**5**,6	[Rn]5f^{4} 6d^{1} 7s^{2}
94	Pu	PLUTONIUM	* 244.06	994	3232	1.2	19.81	151 pm	6.06	4,4,**5**,6	[Rn]5f^{6} 7s^{2}
95	Am	AMERICIUM	* 243.06	641	2607	~1.2	13.67	184 pm	5.993	**3**,4,5,6	[Rn]5f^{7} 7s^{2}
96	Cm	CURIUM	* 247.07	1340		~1.2	13.3		6.02	**3**,4	[Rn]5f^{7} 6d^{1} 7s^{2}
97	Bk	BERKELIUM	* 247.07			~1.2	14.79		6.23	**3**,4	[Rn]5f^{9} 7s^{2}
98	Cf	CALIFORNIUM	* 251.08			~1.2			6.30	**3**,4	[Rn]5f^{10} 7s^{2}
99	Es	EINSTEINIUM	* 252.08			~1.2		203 pm	6.50	**3**	[Rn]5f^{11} 7s^{2}
100	Fm	FERMIUM	* 257.10			~1.2			6.50	**3**	[Rn]5f^{12} 7s^{2}
101	Md	MENDELEVIUM	* 258.10			~1.2			6.58	**3**	[Rn]5f^{13} 7s^{2}
102	No	NOBELIUM	* 259.10						6.65	2,**3**	[Rn]5f^{14} 7s^{2}
103	Lr	LAWRENCIUM	* 260.11							**3**	[Rn]5f^{14} 6d^{1} 7s^{2}

Lanthanide series

Actinide series

**Information source: IUPAC & American Chemical Society; The names and symbols of the elements with atomic numbers 114 and 116 are taken from IUPAC

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