

List of Chemical Elements

Z	Symbol	Element	Group	Period	Atomic weight (u (±))	Density (g/cm)	Melt (K)	Boil (K)	C (J/g · K)	X	Origin of name
1	H	Hydrogen	1	1	1.008	0.00008988	14.01	20.28	14.304	2.2	composed of the Greek elements hydro- and -gen meaning 'water-forming'
2	He	Helium	18	1	4.002602(2)	0.0001785	-	4.22	5.193	-	the Greek helios, 'sun'
3	Li	Lithium	1	2	6.94	0.534	453.69	1560	3.582	0.98	the Greek lithos, 'stone'
4	Be	Beryllium	2	2	9.0121831(5)	1.85	1560	2742	1.825	1.57	beryl, a mineral
5	B	Boron	13	2	10.81	2.34	2349	4200	1.026	2.04	borax, a mineral
6	C	Carbon	14	2	12.011	2.267	3800	4300	0.709	2.55	the Latin carbo, 'coal'
7	N	Nitrogen	15	2	14.007	0.0012506	63.15	77.36	1.04	3.04	the Greek nitron and '-gen' meaning 'niter-forming'
8	O	Oxygen	16	2	15.999	0.001429	54.36	90.2	0.918	3.44	from the Greek oxy-, both 'sharp' and 'acid', and -gen, meaning 'acid-forming'
9	F	Fluorine	17	2	18.998403163(6)	0.001696	53.53	85.03	0.824	3.98	the Latin fluere, 'to flow'
10	Ne	Neon	18	2	20.1797(6)	0.0008999	24.56	27.07	1.03	-	the Greek neos, meaning 'new'
11	Na	Sodium	1	3	22.98976928(2)	0.971	370.87	1156	1.228	0.93	the English word soda (natrium in Latin)
12	Mg	Magnesium	2	3	24.305	1.738	923	1363	1.023	1.31	Magnesia, a district of Eastern Thessaly in Greece
13	Al	Aluminium	13	3	26.9815385(7)	2.698	933.47	2792	0.897	1.61	from alumina, a compound (originally aluminum)
14	Si	Silicon	14	3	28.085	2.3296	1687	3538	0.705	1.9	from the Latin silex, 'flint' (originally silicium)
15	P	Phosphorus	15	3	30.973761998(5)	1.82	317.3	550	0.769	2.19	the Greek phoosphoros, 'carrying light'
16	S	Sulfur	16	3	32.06	2.067	388.36	717.87	0.71	2.58	the Latin sulphur, 'fire and brimstone'
17	Cl	Chlorine	17	3	35.45	0.003214	171.6	239.11	0.479	3.16	the Greek chloros, 'greenish yellow'
18	Ar	Argon	18	3	39.948(1)	0.0017837	83.8	87.3	0.52	-	the Greek argos, 'idle'
19	K	Potassium	1	4	39.0983(1)	0.862	336.53	1032	0.757	0.82	New Latin potassa, 'potash' (kalium in Latin)
20	Ca	Calcium	2	4	40.078(4)	1.54	1115	1757	0.647	1	the Latin calx, 'lime'
21	Sc	Scandium	3	4	44.955908(5)	2.989	1814	3109	0.568	1.36	<i>Scandia, the Latin name for Scandinavia</i>
22	Ti	Titanium	4	4	47.867(1)	4.54	1941	3560	0.523	1.54	Titans, the sons of the Earth goddess of Greek mythology
23	V	Vanadium	5	4	50.9415(1)	6.11	2183	3680	0.489	1.63	Vanadis, an Old Norse name for the Scandinavian goddess Freyja
24	Cr	Chromium	6	4	51.9961(6)	7.15	2180	2944	0.449	1.66	the Greek chroma, 'color'
25	Mn	Manganese	7	4	54.938044(3)	7.44	1519	2334	0.479	1.55	corrupted from magnesia negra, see Magnesium
26	Fe	Iron	8	4	55.845(2)	7.874	1811	3134	0.449	1.83	English word (ferrum in Latin)
27	Co	Cobalt	9	4	58.933194(4)	8.86	1768	3200	0.421	1.88	the German word Kobold, 'goblin'
28	Ni	Nickel	10	4	58.6934(4)	8.912	1728	3186	0.444	1.91	from a mischievous sprite of German miner mythology, Nickel
29	Cu	Copper	11	4	63.546(3)	8.96	1357.77	2835	0.385	1.9	English word (Latin cuprum)
30	Zn	Zinc	12	4	65.38(2)	7.134	692.88	1180	0.388	1.65	German word Zinke (prong, tooth)
31	Ga	Gallium	13	4	69.723(1)	5.907	302.9146	2673	0.371	1.81	<i>Gallia, the Latin name for France</i>
32	Ge	Germanium	14	4	72.630(8)	5.323	1211.4	3106	0.32	2.01	<i>Germania, the Latin name for Germany</i>
33	As	Arsenic	15	4	74.921595(6)	5.776	1090	887	0.329	2.18	English word (Latin arsenicum)
34	Se	Selenium	16	4	78.971(8)	4.809	453	958	0.321	2.55	the Greek selene, 'moon'
35	Br	Bromine	17	4	79.904	3.122	265.8	332	0.474	2.96	the Greek bromos, 'stench'
36	Kr	Krypton	18	4	83.798(2)	0.003733	115.79	119.93	0.248	3	the Greek kryptos, 'hidden'
37	Rb	Rubidium	1	5	85.4678(3)	1.532	312.46	961	0.363	0.82	the Latin rubidus, 'deep red'
38	Sr	Strontium	2	5	87.62(1)	2.64	1050	1655	0.301	0.95	Strontian, a small town in Scotland
39	Y	Yttrium	3	5	88.90584(2)	4.469	1799	3609	0.298	1.22	Ytterby, Sweden
40	Zr	Zirconium	4	5	91.224(2)	6.506	2128	4682	0.278	1.33	Persian Zargun, 'gold-colored'; German Zirkoon, 'jargoon'
41	Nb	Niobium	5	5	92.90637(2)	8.57	2750	5017	0.265	1.6	Niobe, daughter of king Tantalus from Greek mythology
42	Mo	Molybdenum	6	5	95.95(1)	10.22	2896	4912	0.251	2.16	the Greek molybdos meaning 'lead'
43	Tc	Technetium	7	5	[98]	11.5	2430	4538	-	1.9	the Greek tekhnē 'tos meaning 'artificial'
44	Ru	Ruthenium	8	5	101.07(2)	12.37	2607	4423	0.238	2.2	<i>Ruthenia, the New Latin name for Russia</i>
45	Rh	Rhodium	9	5	102.90550(2)	12.41	2237	3968	0.243	2.28	the Greek rhodos, meaning 'rose coloured'

46	Pd	Palladium	10	5	106.42(1)	12.02	1828.05	3236	0.244	2.2	the then recently discovered asteroid Pallas, considered a planet at the time
47	Ag	Silver	11	5	107.8682(2)	10.501	1234.93	2435	0.235	1.93	English word (argentum in Latin)
48	Cd	Cadmium	12	5	112.414(4)	8.69	594.22	1040	0.232	1.69	the New Latin cadmia, from King Kadmos
49	In	Indium	13	5	114.818(1)	7.31	429.75	2345	0.233	1.78	<i>indigo</i>
50	Sn	Tin	14	5	118.710(7)	7.287	505.08	2875	0.228	1.96	English word (stannum in Latin)
51	Sb	Antimony	15	5	121.760(1)	6.685	903.78	1860	0.207	2.05	uncertain: perhaps from the Greek anti, 'against', and monos, 'alone', or the Old French antimoine, 'Monk's bane' (stibium in Latin)
52	Te	Tellurium	16	5	127.60(3)	6.232	722.66	1261	0.202	2.1	Latin tellus, 'earth'
53	I	Iodine	17	5	126.90447(3)	4.93	386.85	457.4	0.214	2.66	French iode (after the Greek ioeides, 'violet')
54	Xe	Xenon	18	5	131.293(6)	0.005887	161.4	165.03	0.158	2.6	the Greek xenos, 'strange'
55	Cs	Caesium	1	6	132.90545196(6)	1.873	301.59	944	0.242	0.79	the Latin caesius, 'sky blue'
56	Ba	Barium	2	6	137.327(7)	3.594	1000	2170	0.204	0.89	the Greek barys, 'heavy'
57	La	Lanthanum	3	6	138.90547(7)	6.145	1193	3737	0.195	1.1	the Greek lanthanein, 'to lie hidden'
58	Ce	Cerium		6	140.116(1)	6.77	1068	3716	0.192	1.12	the then recently discovered asteroid Ceres, considered a planet at the time
59	Pr	Praseodymium		6	140.90766(2)	6.773	1208	3793	0.193	1.13	the Greek praseios didymos meaning 'green twin'
60	Nd	Neodymium		6	144.242(3)	7.007	1297	3347	0.19	1.14	the Greek neos didymos meaning 'new twin'
61	Pm	Promethium		6	[145]	7.26	1315	3273	-	1.13	Prometheus of Greek mythology who stole fire from the Gods and gave it to humans
62	Sm	Samarium		6	150.36(2)	7.52	1345	2067	0.197	1.17	Samarskite, the name of the mineral from which it was first isolated
63	Eu	Europium		6	151.964(1)	5.243	1099	1802	0.182	1.2	Europe
64	Gd	Gadolinium		6	157.25(3)	7.895	1585	3546	0.236	1.2	Johan Gadolin, chemist, physicist and mineralogist
65	Tb	Terbium		6	158.92535(2)	8.229	1629	3503	0.182	1.2	Ytterby, Sweden
66	Dy	Dysprosium		6	162.500(1)	8.55	1680	2840	0.17	1.22	the Greek dysprositos, 'hard to get'
67	Ho	Holmium		6	164.93033(2)	8.795	1734	2993	0.165	1.23	<i>Holmia</i> , the New Latin name for Stockholm
68	Er	Erbium		6	167.259(3)	9.066	1802	3141	0.168	1.24	Ytterby, Sweden
69	Tm	Thulium		6	168.93422(2)	9.321	1818	2223	0.16	1.25	Thule, the ancient name for Scandinavia
70	Yb	Ytterbium		6	173.045(10)	6.965	1097	1469	0.155	1.1	Ytterby, Sweden
71	Lu	Lutetium		6	174.9668(1)	9.84	1925	3675	0.154	1.27	<i>Lutetia</i> , the Latin name for Paris
72	Hf	Hafnium	4	6	178.49(2)	13.31	2506	4876	0.144	1.3	<i>Hafnia</i> , the New Latin name for Copenhagen
73	Ta	Tantalum	5	6	180.94788(2)	16.654	3290	5731	0.14	1.5	King Tantalus, father of Niobe from Greek mythology
74	W	Tungsten	6	6	183.84(1)	19.25	3695	5828	0.132	2.36	the Swedish tung sten, 'heavy stone' (W is wolfram, the old name of the tungsten mineral wolframite)
75	Re	Rhenium	7	6	186.207(1)	21.02	3459	5869	0.137	1.9	<i>Rhenus</i> , the Latin name for the river Rhine
76	Os	Osmium	8	6	190.23(3)	22.61	3306	5285	0.13	2.2	the Greek osmÃ, meaning 'smell'
77	Ir	Iridium	9	6	192.217(3)	22.56	2719	4701	0.131	2.2	Iris, the Greek goddess of the rainbow
78	Pt	Platinum	10	6	195.084(9)	21.46	2041.4	4098	0.133	2.28	the Spanish platina, meaning 'little silver'
79	Au	Gold	11	6	196.966569(5)	19.282	1337.33	3129	0.129	2.54	English word (aurum in Latin)
80	Hg	Mercury	12	6	200.592(3)	13.5336	234.43	629.88	0.14	2	the New Latin name mercurius, named after the Roman god (Hg from former name hydrargyrum, from Greek hydr-, 'water', and argyros, 'silver')
81	Tl	Thallium	13	6	204.38	11.85	577	1746	0.129	1.62	the Greek thallos, 'green twig'
82	Pb	Lead	14	6	207.2(1)	11.342	600.61	2022	0.129	1.87	English word (plumbum in Latin)
83	Bi	Bismuth	15	6	208.98040(1)	9.807	544.7	1837	0.122	2.02	Uncertain, possibly Arabic or German
84	Po	Polonium	16	6	[209]	9.32	527	1235	-	2	Named after the home country of Marie Curie (Polonia, Latin for Poland), who is also the discoverer of Radium
85	At	Astatine	17	6	[210]	7	575	610	-	2.2	the Greek astatos, 'unstable'
86	Rn	Radon	18	6	[222]	0.00973	202	211.3	0.094	2.2	From radium, as it was first detected as an emission from radium during radioactive decay
87	Fr	Francium	1	7	[223]	1.87	300	950	-	0.7	<i>Francia</i> , the New Latin name for France
88	Ra	Radium	2	7	[226]	5.5	973	2010	0.094	0.9	the Latin radius, 'ray'
89	Ac	Actinium	3	7	[227]	10.07	1323	3471	0.12	1.1	the Greek aktis, 'ray'
90	Th	Thorium		7	232.0377(4)	11.72	2115	5061	0.113	1.3	Thor, the Scandinavian god of thunder

91	Pa	Protactinium		7	231.03588(2)	15.37	1841	4300	-	1.5	the Greek protos, 'first', and actinium, which is produced through the radioactive decay of protactinium
92	U	Uranium		7	238.02891(3)	18.95	1405.3	4404	0.116	1.38	Uranus, the seventh planet in the Solar System
93	Np	Neptunium		7	[237]	20.45	917	4273	-	1.36	Neptune, the eighth planet in the Solar System
94	Pu	Plutonium		7	[244]	19.84	912.5	3501	-	1.28	Pluto, a dwarf planet in the Solar System (then considered the ninth planet)
95	Am	Americium		7	[243]	13.69	1449	2880	-	1.13	The Americas, as the element was first synthesized on the continent, by analogy with europium
96	Cm	Curium		7	[247]	13.51	1613	3383	-	1.28	Pierre Curie, a physicist, and Marie Curie, a physicist and chemist, named after great scientists by analogy with gadolinium
97	Bk	Berkelium		7	[247]	14.79	1259	2900	-	1.3	Berkeley, California, where the element was first synthesized, by analogy with terbium
98	Cf	Californium		7	[251]	15.1	1173	-1743	-	1.3	California, where the element was first synthesized
99	Es	Einsteinium		7	[252]	8.84	1133	-1269	-	1.3	Albert Einstein, physicist
100	Fm	Fermium		7	[257]	-9.7	-1125	-	-	1.3	Enrico Fermi, physicist
101	Md	Mendelevium		7	[258]	-10.3	-1100	-	-	1.3	Dmitri Mendeleev, chemist and inventor
102	No	Nobelium		7	[259]	-9.9	-1100	-	-	1.3	Alfred Nobel, chemist, engineer, inventor of dynamite
103	Lr	Lawrencium		7	[266]	-15.6	-1900	-	-	1.3	Ernest O. Lawrence, physicist
104	Rf	Rutherfordium	4	7	[267]	-23.2	-2400	-5800	-	-	Ernest Rutherford, chemist and physicist
105	Db	Dubnium	5	7	[268]	-29.3	-	-	-	-	Dubna, Russia
106	Sg	Seaborgium	6	7	[269]	-35	-	-	-	-	Glenn T. Seaborg, scientist
107	Bh	Bohrium	7	7	[270]	-37.1	-	-	-	-	Niels Bohr, physicist
108	Hs	Hassium	8	7	[277]	-40.7	-	-	-	-	Hesse, Germany, where the element was first synthesized
109	Mt	Meitnerium	9	7	[278]	-37.4	-	-	-	-	Lise Meitner, physicist
110	Ds	Darmstadtium	10	7	[281]	-34.8	-	-	-	-	Darmstadt, Germany, where the element was first synthesized
111	Rg	Roentgenium	11	7	[282]	-28.7	-	-	-	-	Wilhelm Conrad Röntgen, physicist
112	Cn	Copernicium	12	7	[285]	-23.7	-	~357	-	-	Nicolaus Copernicus, astronomer
113	Nh	Nihonium	13	7	[286]	-16	-700	-1400	-	-	the Japanese name for Japan, Nihon, where the element was first synthesized
114	Fl	Flerovium	14	7	[289]	-14	-	~210	-	-	Flerov Laboratory of Nuclear Reactions, part of JINR where the element was synthesized; itself named for Georgy Flyorov, physicist
115	Mc	Moscovium	15	7	[290]	-13.5	-700	-1400	-	-	Moscow Oblast, Russia, where the element was first synthesized
116	Lv	Livermorium	16	7	[293]	-12.9	-709	-1085	-	-	Lawrence Livermore National Laboratory (in Livermore, California) which collaborated with JINR on its synthesis
117	Ts	Tennesine	17	7	[294]	-7.2	-723	-883	-	-	Tennessee, United States
118	Og	Oganesson	18	7	[294]	-5	-	-350	-	-	Yuri Oganessian, physicist