PROPERTIES OF ELEMENTS (D2)

Chemical Element Name	Chemical Symbol	Relative Atomic Mass of Isotope with Highest Isotopic Abundance A_r [u or Da]	Atomic Number *Z*	Abbreviated Electron Configuration/ Ground Shells	State of Matter/Phase at STP	Melting Point/ Liquefaction Point at STP [K]	Boiling Point at STP [K]
Hydrogen	H	1.007 825 032 23(9)	1	$1s^1$	Gas	14.01	20.28
Helium	He	4.002 603 254 13(6)	2	$1s^2$	Gas	0 [No solid state]	4.22
Lithium	Li	7.016 003 436 6(45)	3	[He] $2s^1$	Solid	453.69	1 615
Beryllium	Be	9.012 183 065(82)	4	[He] $2s^2$	Solid	1 560	2 743
Boron	B	11.009 305 36(45)	5	[He] $2s^2$ $2p^1$	Solid	2 348	4 273
Carbon	C	12.000 000 0(00)	6	[He] $2s^2$ $2p^2$	Solid	3 823	4 300
Nitrogen	N	14.003 074 004 43(20)	7	[He] $2s^2$ $2p^3$	Gas	63.1	77.36
Oxygen	O	15.994 914 619 57(17)	8	[He] $2s^2$ $2p^4$	Gas	54.8	90.2
Fluorine	F	18.998 403 162 73(92)	9	[He] $2s^2$ $2p^5$	Gas	53.5	85.03
Neon	Ne	19.992 440 176 2(17)	10	[He] $2s^2$ $2p^6$	Gas	24.56	27.07
Sodium	Na	22.989 769 282 0(19)	11	[Ne] $3s^1$	Solid	370.87	1 156
Magnesium	Mg	23.985 041 697(14)	12	[Ne] $3s^2$	Solid	923	1 363
Aluminium	Al	26.981 538 53(11)	13	[Ne] $3s^2$ $3p^1$	Solid	933.47	2 792
Silicon	Si	27.976 926 534 65(44)	14	[Ne] $3s^2$ $3p^2$	Solid	1 687	3 200

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Phosphorus	P	30.973 761 998 42(70)	15	[Ne] $3s^2\ 3p^3$	Solid	317.3 [Yellow]	553.6 [Yellow]
Sulfur	S	31.972 071 174 4(14)	16	[Ne] $3s^2\ 3p^4$	Solid	388.36	717.87
Chlorine	Cl	34.968 852 682(37)	17	[Ne] $3s^2\ 3p^5$	Gas	171.7	239.11
Argon	Ar	39.962 383 123 7(24)	18	[Ne] $3s^2\ 3p^6$	Gas	83.8	87.4
Potassium	K	38.963 706 486 4(49)	19	[Ar] $4s^1$	Solid	336.53	1 032
Calcium	Ca	39.962 590 863(22)	20	[Ar] $4s^2$	Solid	1 115	1 757
Scandium	Sc	44.955 908 28(77)	21	[Ar] $4s^2\ 3d^1$	Solid	1 814	3 103
Titanium	Ti	47.947 941 98(38)	22	[Ar] $4s^2\ 3d^2$	Solid	1 941	3 560
Vanadium	V	50.943 957 04(94)	23	[Ar] $4s^2\ 3d^3$	Solid	2 183	3 680
Chromium	Cr	51.940 506 23(63)	24	[Ar] $4s^1\ 3d^5$	Solid	2 180	2 944
Manganese	Mn	54.938 043 91(48)	25	[Ar] $4s^2\ 3d^5$	Solid	1 519	2 334
Iron	Fe	55.934 936 33(49)	26	[Ar] $4s^2\ 3d^6$	Solid	1 811	3 134
Cobalt	Co	58.933 194 29(56)	27	[Ar] $4s^2\ 3d^7$	Solid	1 768	3 200
Nickel	Ni	57.935 342 41(52)	28	[Ar] $4s^2\ 3d^8$	Solid	1 728	3 186
Copper	Cu	62.929 597 72(56)	29	[Ar] $4s^1\ 3d^{10}$	Solid	1 357.77	2 835

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Zinc	Zn	63.929 142 01(71)	30	[Ar] $4s^2$ $3d^{10}$	Solid	692.68	1 180
Gallium	Ga	68.925 573 5(13)	31	[Ar] $4s^2$ $3d^{10}$ $4p^1$	Solid	302.91	2 477
Germanium	Ge	73.921 177 761(13)	32	[Ar] $4s^2$ $3d^{10}$ $4p^2$	Solid	1 211	3 093
Arsenic	As	74.921 594 57(95)	33	[Ar] $4s^2$ $3d^{10}$ $4p^3$	Solid	1 090	887
Selenium	Se	79.916 521 8(13)	34	[Ar] $4s^2$ $3d^{10}$ $4p^4$	Solid	494	958
Bromine	Br	78.918 337 6(14)	35	[Ar] $4s^2$ $3d^{10}$ $4p^5$	Liquid	265.8	332
Krypton	Kr	83.911 497 728 2(44)	36	[Ar] $4s^2$ $3d^{10}$ $4p^6$	Gas	115.79	119.93
Rubidium	Rb	84.911 789 737 9(54)	37	[Kr] $5s^1$	Solid	312.46	961
Strontium	Sr	87.905 612 5(12)	38	[Kr] $5s^2$	Solid	1 050	1 655
Yttrium	Y	88.905 840 3(24)	39	[Kr] $5s^2$ $4d^1$	Solid	1 799	3 618
Zirconium	Zr	89.904 697 7(20)	40	[Kr] $5s^2$ $4d^2$	Solid	2 128	4 682
Niobium	Nb	92.906 373 0(20)	41	[Kr] $5s^1$ $4d^4$	Solid	2 750	5 017
Molybdenum	Mo	97.905 404 82(49)	42	[Kr] $5s^1$ $4d^5$	Solid	2 896	4 912
Technetium	Tc	[96.906 366 7(40), 98.906 250 8(10)]	43	[Kr] $5s^2$ $4d^5$	Solid	2 430	4 538
Ruthenium	Ru	101.904 344 1(12)	44	[Kr] $5s^1$ $4d^7$	Solid	2 607	4 423

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Rhodium	Rh	102.905 498 0(26)	45	[Kr] $5s^1$ $4d^8$	Solid	2 237	3 968
Palladium	Pd	105.903 480 4(12)	46	[Kr] $4d^{10}$	Solid	1 828	3 236
Silver	Ag	106.905 091 6(26)	47	[Kr] $5s^1$ $4d^{10}$	Solid	1 234.9	2 435
Cadmium	Cd	113.903 365 09(43)	48	[Kr] $5s^2$ $4d^{10}$	Solid	594.22	1 040
Indium	In	114.903 878 776(12)	49	[Kr] $5s^2$ $4d^{10}$ $5p^1$	Solid	429.8	2 345
Tin	Sn	119.902 201 63(97)	50	[Kr] $5s^2$ $4d^{10}$ $5p^2$	Solid	505.08	2 875
Antimony	Sb	120.903 812 0(30)	51	[Kr] $5s^2$ $4d^{10}$ $5p^3$	Solid	903.78	1 860
Tellurium	Te	129.906 222 748(12)	52	[Kr] $5s^2$ $4d^{10}$ $5p^4$	Solid	722.66	1 261
Iodine	I	126.904 471 9(39)	53	[Kr] $5s^2$ $4d^{10}$ $5p^5$	Solid	386.9	457.5
Xenon	Xe	131.904 155 085 6(56)	54	[Kr] $5s^2$ $4d^{10}$ $5p^6$	Gas	161.3	165
Caesium	Cs	132.905 451 961 0(80)	55	[Xe] $6s^1$	Solid	301.59	944
Barium	Ba	137.905 247 00(31)	56	[Xe] $6s^2$	Solid	1 000	2 143
Lanthanum	La	138.906 356 3(24)	57	[Xe] $6s^2$ $5d^1$	Solid	1 193	3 737
Cerium	Ce	139.905 443 1(23)	58	[Xe] $6s^2$ $4f^1$ $5d^1$	Solid	1 071	3 633
Praseodymium	Pr	140.907 657 6(23)	59	[Xe] $6s^2$ $4f^3$	Solid	1 204	3 563

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Neodymium	Nd	141.907 729 0(20)	60	[Xe] $6s^2$ $4f^4$	Solid	1 294	3 400
Promethium	Pm	[144.912 755 9(33), 146.915 145 0(19)]	61	[Xe] $6s^2$ $4f^5$	Solid	1 400	3 300
Samarium	Sm	151.919 739 7(18)	62	[Xe] $6s^2$ $4f^6$	Solid	1 345	2 067
Europium	Eu	152.921 238 0(18)	63	[Xe] $6s^2$ $4f^7$	Solid	1 095	1 800
Gadolinium	Gd	157.924 112 3(17)	64	[Xe] $6s^2$ $4f^7$ $5d^1$	Solid	1 586	3 523
Terbium	Tb	158.925 354 7(19)	65	[Xe] $6s^2$ $4f^9$	Solid	1 629	3 503
Dysprosium	Dy	163.929 181 9(20)	66	[Xe] $6s^2$ $4f^{10}$	Solid	1 685	2 840
Holmium	Ho	164.930 328 8(21)	67	[Xe] $6s^2$ $4f^{11}$	Solid	1 747	2 973
Erbium	Er	165.930 299 5(22)	68	[Xe] $6s^2$ $4f^{12}$	Solid	1 770	3 141
Thulium	Tm	168.934 217 9(22)	69	[Xe] $6s^2$ $4f^{13}$	Solid	1 818	2 223
Ytterbium	Yb	173.938 866 4(22)	70	[Xe] $6s^2$ $4f^{14}$	Solid	1 092	1 469
Lutetium	Lu	174.940 775 2(20)	71	[Xe] $6s^2$ $4f^{14}$ $5d^1$	Solid	1 936	3 675
Hafnium	Hf	179.946 557 0(20)	72	[Xe] $6s^2$ $4f^{14}$ $5d^2$	Solid	2 506	4 876
Tantalum	Ta	180.947 995 8(20)	73	[Xe] $6s^2$ $4f^{14}$ $5d^3$	Solid	3 290	5 731
Tungsten	W	183.950 930 92(94)	74	[Xe] $6s^2$ $4f^{14}$ $5d^4$	Solid	3 695	5 828

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Rhenium	Re	186.955 750 1(16)	75	[Xe] $6s^2$ $4f^{14}$ $5d^5$	Solid	3 459	5 896
Osmium	Os	191.961 477 0(29)	76	[Xe] $6s^2$ $4f^{14}$ $5d^6$	Solid	3 306	5 285
Iridium	Ir	192.962 921 6(21)	77	[Xe] $6s^2$ $4f^{14}$ $5d^7$	Solid	2 739	4 701
Platinum	Pt	194.964 791 7(10)	78	[Xe] $6s^1$ $4f^{14}$ $5d^9$	Solid	2 041.5	4 098
Gold	Au	196.966 568 79(71)	79	[Xe] $6s^1$ $4f^{14}$ $5d^{10}$	Solid	1 337.33	3 129
Mercury	Hg	201.970 643 40(69)	80	[Xe] $6s^2$ $4f^{14}$ $5d^{10}$	Liquid	234.32	629.88
Thallium	Tl	204.974 427 8(14)	81	[Xe] $6s^2$ $4f^{14}$ $5d^{10}$ $6p^1$	Solid	577	1 746
Lead	Pb	207.976 652 5(13)	82	[Xe] $6s^2$ $4f^{14}$ $5d^{10}$ $6p^2$	Solid	600.61	2 022
Bismuth	Bi	208.980 399 1(16)	83	[Xe] $6s^2$ $4f^{14}$ $5d^{10}$ $6p^3$	Solid	544.4	1 837
Polonium	Po	[208.982 430 8(20), 209.982 874 1(13)]	84	[Xe] $6s^2$ $4f^{14}$ $5d^{10}$ $6p^4$	Solid	527	1 235
Astatine	At	[209.987 147 9(83), 210.987 496 6(30)]	85	[Xe] $6s^2$ $4f^{14}$ $5d^{10}$ $6p^5$	Solid	575	-
Radon	Rn	[210.990 601 1(73), 222.017 578 2(25)]	86	[Xe] $6s^2$ $4f^{14}$ $5d^{10}$ $6p^6$	Gas	202	211.4
Francium	Fr	223.019 736 0(25)	87	[Rn] $7s^1$	Solid	-	-
Radium	Ra	[223.018 502 3(27), 228.031 070 7(26)]	88	[Rn] $7s^2$	Solid	970	2 010
Actinium	Ac	227.027 752 3(25)	89	[Rn] $7s^2$ $6d^1$	Solid	1 323	3 473

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Thorium	Th	232.038 055 8(21)	90	[Rn] $7s^2$ $6d^2$	Solid	2 023	5 093
Protactinium	Pa	231.035 884 2(24)	91	[Rn] $7s^2$ $5f^2$ $6d^1$	Solid	1 845	4 273
Uranium	U	238.050 788 4(20)	92	[Rn] $7s^2$ $5f^3$ $6d^1$	Solid	1 408	4 200
Neptunium	Np	[236.046 570(54), 237.048 173 6(19)]	93	[Rn] $7s^2$ $5f^4$ $6d^1$	Solid	917	4 300
Plutonium	Pu	[238.049 560 1(19), 244.064 205 3(56)]	94	[Rn] $7s^2$ $5f^6$	Solid	913	3 503
Americium	Am	[241.056 829 3(19), 243.061 381 3(24)]	95	[Rn] $7s^2$ $5f^7$	Solid	1 449	2 284
Curium	Cm	[243.061 389 3(22), 248.072 349 9(56)]	96	[Rn] $7s^2$ $5f^7$ $6d^1$	Solid	1 618	3 383
Berkelium	Bk	[247.070 307 3(59), 249.074 987 7(27)]	97	[Rn] $7s^2$ $5f^9$	Solid	1 323 [alpha]	-
Californium	Cf	[249.074 853 9(23), 252.081 627 2(56)]	98	[Rn] $7s^2$ $5f^{10}$	Solid	1 173	-
Einsteinium	Es	252.082 980(54)	99	[Rn] $7s^2$ $5f^{11}$	Solid	1 133	-
Fermium	Fm	257.095 106 1(69)	100	[Rn] $7s^2$ $5f^{12}$	-	1 800	-
Mendelevium	Md	[258.098 431 5(50), 260.103 65(34#)]	101	[Rn] $7s^2$ $5f^{13}$	-	1 100	-
Nobelium	No	259.101 03(11#)	102	[Rn] $7s^2$ $5f^{14}$	-	1 100	-
Lawrencium	Lr	262.109 61(22#)	103	[Rn] $7s^2$ $5f^{14}$ $7p^1$	-	1 900	-
Rutherfordium	Rf	267.121 79(62#)	104	[Rn] $7s^2$ $5f^{14}$ $6d^2$	-	-	-

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Dubnium	Db	268.125 67(57#)	105	[Rn] $7s^2\ 5f^{14}\ 6d^3$	-	-	-
Seaborgium	Sg	271.133 93(63#)	106	[Rn] $7s^2\ 5f^{14}\ 6d^4$	-	-	-
Bohrium	Bh	272.138 26(58#)	107	[Rn] $7s^2\ 5f^{14}\ 6d^5$	-	-	-
Hassium	Hs	270.134 29(27#)	108	[Rn] $7s^2\ 5f^{14}\ 6d^6$	-	-	-
Meitnerium	Mt	276.151 59(59#)	109	[Rn] $7s^2\ 5f^{14}\ 6d^7$	-	-	-
Darmstadtium	Ds	281.164 51(59#)	110	[Rn] $7s^1\ 5f^{14}\ 6d^9$	-	-	-
Roentgenium	Rg	280.165 14(61#)	111	[Rn] $7s^1\ 5f^{14}\ 6d^{10}$	-	-	-
Copernicium	Cn	285.177 12(60#)	112	[Rn] $7s^2\ 5f^{14}\ 6d^{10}$	-	-	-
Nihonium	Nh	284.178 73(62#)	113	[Rn] $7s^2\ 5f^{14}\ 6d^{10}\ 7p^1$	-	-	-
Flerovium	Fl	289.190 42(60#)	114	[Rn] $7s^2\ 5f^{14}\ 6d^{10}\ 7p^2$	-	-	-
Moscovium	Mc	288.192 74(62#)	115	[Rn] $7s^2\ 5f^{14}\ 6d^{10}\ 7p^3$	-	-	-
Livermorium	Lv	293.204 49(60#)	116	[Rn] $7s^2\ 5f^{14}\ 6d^{10}\ 7p^4$	-	-	-
Tennessine	Ts	292.207 46(75#)	117	[Rn] $7s^2\ 5f^{14}\ 6d^{10}\ 7p^5$	-	-	-
Oganesson	Og	294.213 92(71#)	118	[Rn] $7s^2\ 5f^{14}\ 6d^{10}\ 7p^6$	-	-	-

Abbreviations and Units:

- STP: Standard Temperature and Pressure
- K: Kelvins
- u or Da: Unified Atomic Mass Unit

Sources:

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- State of Matter/Phase at STP [3] [10] [17] [21]
- Melting Point/Liquefaction Point at STP [3] [10] [17] [21]
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