

Periodensystem der Elemente

47₁ 107.8682 **4**

Silber **2** 1.4, 1.9 **5**

Ag **3** 962 **6**

2212 **7**

1,2 **8**

10.49 g/cm³ **9**

[Kr]4d¹⁰5s¹ **10**

- 1 Ordnungszahl
- 2 Elementname
- 3 Elementsymbol
- 4 Relative Atommasse
- 5 Elektronegativität
Allred/Rochow, Pauling
- 6 Schmelzpunkt °C
- 7 Siedepunkt °C
- 8 Oxidationszahlen
- 9 Dichte (293K)
- 10 Elektronenkonfiguration

- Metalle
- Nichtmetalle
- Übergangsmetalle
- Elemente der f-Reihe

1	2											13	14	15	16	17	18																
1 Wasserstoff 1.00794 H 2.2, 2.1 -259 -253 -1,1 0.0899 g/l 1s ¹	2 Helium 4.002602 He -272 -269 0.179 g/l 1s ²											5 Bor 10.811 B 2.0, 2.0 2300 2550 2.34 g/cm ³ [He]2s ² 2p ¹	6 Kohlenstoff 12.0107 C 2.5, 2.5 3550 4827 2.62 g/cm ³ [He]2s ² 2p ²	7 Stickstoff 14.0067 N 3.1, 3.0 -210 -196 1.25 g/l [He]2s ² 2p ³	8 Sauerstoff 15.9994 O 3.5, 3.5 -218 -183 1.404 g/l [He]2s ² 2p ⁴	9 Fluor 18.9984032 F 4.1, 4.0 -220 -188 1.696 g/l [He]2s ² 2p ⁵	10 Neon 20.1797 Ne -249 -246 0.8999 g/l [He]2s ² 2p ⁶											13 Aluminium 26.9815386 Al 1.5, 1.5 661 2467 2.702 g/cm ³ [Ne]3s ³ 3p ¹	14 Silicium 28.0855 Si 1.7, 1.8 1410 2355 -4,4 2.33 g/cm ³ [Ne]3s ³ 3p ²	15 Phosphor 30.973762 P 2.1, 2.1 44 280 -3,3,5 -4,4 1.82 g/cm ³ [Ne]3s ³ 3p ³	16 Schwefel 32.065 S 2.4, 2.5 113 280 -2,2,4,6 2.07 g/cm ³ [Ne]3s ³ 3p ⁴	17 Chlor 35.453 Cl 2.8, 3.0 -101 445 -1,1,3,5,7 2.95 g/l [Ne]3s ³ 3p ⁵	18 Argon 39.948 Ar -189 -186 1.784 g/l [Ne]3s ³ 3p ⁶
3 Lithium 6.941 Li 1.0, 1.0 181 1317 0.53 g/cm ³ [He]2s ¹	4 Beryllium 9.012182 Be 1.5, 1.5 1278 2970 1.848 g/cm ³ [He]2s ²											31 Gallium 69.723 Ga 1.8, 1.6 30 2403 5.907 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ¹	32 Germanium 72.64 Ge 2.0, 1.8 937 2830 5.323 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ²	33 Arsen 74.92160 As 2.2, 2.0 817 613subl -3,3,5 5.72 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ³	34 Selen 78.96 Se 2.5, 2.4 217 685 -2,4,6 4.79 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ⁴	35 Brom 79.904 Br 2.7, 2.8 -7 59 -1,1,3,5,7 3.119 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ⁵	36 Krypton 83.80 Kr -157 -152 3.677 g/l [Ar]3d ¹⁰ 4s ⁴ 4p ⁶																
19 Kalium 39.0983 K 0.9, 0.8 64 774 0.862 g/cm ³ [Ar]4s ¹	20 Calcium 40.078 Ca 1.0, 1.0 839 1487 1.55 g/cm ³ [Ar]4s ²	21 Scandium 44.955912 Sc 1.2, 1.3 1539 2832 3.0 g/cm ³ [Ar]3d ⁴ 4s ¹	22 Titan 47.867 Ti 1.3, 1.5 1660 2750 4.50 g/cm ³ [Ar]3d ² 4s ²	23 Vanadium 50.9415 V 1.4, 1.6 1890 3380 6.1 g/cm ³ [Ar]3d ³ 4s ²	24 Chrom 51.9961 Cr 1.6, 1.6 1857 2482 7.19 g/cm ³ [Ar]3d ⁵ 4s ¹	25 Mangan 54.938045 Mn 1.6, 1.5 1244 2097 7.43 g/cm ³ [Ar]3d ⁵ 4s ²	26 Eisen 55.845 Fe 1.6, 1.8 1535 2870 7.86 g/cm ³ [Ar]3d ⁶ 4s ²	27 Cobalt 58.933195 Co 1.7, 1.9 1495 2870 8.90 g/cm ³ [Ar]3d ⁷ 4s ¹	28 Nickel 58.6934 Ni 1.7, 1.9 1453 2732 8.90 g/cm ³ [Ar]3d ⁸ 4s ²	29 Kupfer 63.546 Cu 1.7, 1.9 1084 907 8.96 g/cm ³ [Ar]3d ¹⁰ 4s ¹	30 Zink 65.39 Zn 1.7, 1.6 420 907 7.14 g/cm ³ [Ar]3d ¹⁰ 4s ²	31 Gallium 69.723 Ga 1.8, 1.6 30 2403 5.907 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ¹	32 Germanium 72.64 Ge 2.0, 1.8 937 2830 5.323 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ²	33 Arsen 74.92160 As 2.2, 2.0 817 613subl -3,3,5 5.72 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ³	34 Selen 78.96 Se 2.5, 2.4 217 685 -2,4,6 4.79 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ⁴	35 Brom 79.904 Br 2.7, 2.8 -7 59 -1,1,3,5,7 3.119 g/cm ³ [Ar]3d ¹⁰ 4s ⁴ 4p ⁵	36 Krypton 83.80 Kr -157 -152 3.677 g/l [Ar]3d ¹⁰ 4s ⁴ 4p ⁶																
37 Rubidium 85.4678 Rb 0.9, 0.8 39 688 1.53 g/cm ³ [Kr]5s ¹	38 Strontium 87.62 Sr 1.0, 1.0 769 1384 2.6 g/cm ³ [Kr]5s ²	39 Yttrium 88.90585 Y 1.1, 1.2 1523 3337 4.47 g/cm ³ [Kr]4d ⁵ 5s ¹	40 Zirkon 91.224 Zr 1.2, 1.4 1852 4927 6.49 g/cm ³ [Kr]4d ⁵ 5s ²	41 Niob 92.90638 Nb 1.2, 1.6 2468 4927 8.57 g/cm ³ [Kr]4d ⁵ 5s ¹	42 Molybdän 95.94 Mo 1.3, 1.8 2617 5560 10.2 g/cm ³ [Kr]4d ⁵ 5s ¹	43 Technetium 98.906 Tc 1.4, 1.9 2172 5030 11.5 g/cm ³ [Kr]4d ⁵ 5s ¹	44 Ruthenium 101.07 Ru 1.4, 2.2 2310 3900 12.2 g/cm ³ [Kr]4d ⁷ 5s ¹	45 Rhodium 102.90550 Rh 1.4, 2.2 1966 3727 12.4 g/cm ³ [Kr]4d ⁸ 5s ¹	46 Palladium 106.42 Pd 1.4, 2.2 1552 3140 12.02 g/cm ³ [Kr]4d ¹⁰	47 Silber 107.8682 Ag 1.4, 1.9 962 321 10.49 g/cm ³ [Kr]4d ¹⁰ 5s ¹	48 Cadmium 112.411 Cd 1.5, 1.9 761 325 8.65 g/cm ³ [Kr]4d ¹⁰ 5s ²	49 Indium 114.818 In 1.5, 1.7 157 2080 7.31 g/cm ³ [Kr]4d ¹⁰ 5s ² 5p ¹	50 Zinn 118.710 Sn 1.7, 1.8 232 2080 7.30 g/cm ³ [Kr]4d ¹⁰ 5s ² 5p ²	51 Antimon 121.760 Sb 1.8, 1.9 631 1750 -3,3,5 6.684 g/cm ³ [Kr]4d ¹⁰ 5s ² 5p ³	52 Tellur 127.60 Te 2.0, 2.1 450 990 -2,4,6 6.24 g/cm ³ [Kr]4d ¹⁰ 5s ² 5p ⁴	53 Iod 126.90447 I 2.2, 2.5 114 184 -1,1,5,7 4.93 g/cm ³ [Kr]4d ¹⁰ 5s ² 5p ⁵	54 Xenon 131.293 Xe -112 -107 2.4,6 5.761 g/l [Kr]4d ¹⁰ 5s ² 5p ⁶																
55 Cäsium 132.9054519 Cs 0.9, 0.7 28 690 1.873 g/cm ³ [Xe]6s ¹	56 Barium 137.327 Ba 1.0, 0.9 725 1640 3.51 g/cm ³ [Xe]6s ²	57-71 Lanthanide La-Lu	72 Hafnium 178.49 Hf 1.2, 1.3 1539 5400 13.2 g/cm ³ [Xe]4f ¹⁴ 5d ² 6s ²	73 Tantal 180.94788 Ta 1.3, 1.5 2996 5425 16.6 g/cm ³ [Xe]4f ¹⁴ 5d ³ 6s ²	74 Wolfram 183.84 W 1.4, 1.7 3407 5927 19.3 g/cm ³ [Xe]4f ¹⁴ 5d ⁴ 6s ²	75 Rhenium 186.207 Re 1.5, 1.9 3180 5627 -1,2,4,6,7 [Xe]4f ¹⁴ 5d ⁵ 6s ²	76 Osmium 190.23 Os 1.5, 2.2 3045 5027 -2,0,2,3,4,6,8 [Xe]4f ¹⁴ 5d ⁶ 6s ²	77 Iridium 192.217 Ir 1.5, 2.2 2410 4130 -1,0,1,2,3,4,6 [Xe]4f ¹⁴ 5d ⁶ 6s ²	78 Platin 195.084 Pt 1.4, 2.2 2106 3827 21.45 g/cm ³ [Xe]4f ¹⁴ 5d ⁹ 6s ¹	79 Gold 196.966569 Au 1.4, 2.4 1064 2940 19.32 g/cm ³ [Xe]4f ¹⁴ 5d ¹⁰ 6s ¹	80 Quecksilber 200.59 Hg 1.4, 1.9 -39 357 13.546 g/cm ³ [Xe]4f ¹⁴ 5d ¹⁰ 6s ²	81 Thallium 204.3833 Tl 1.4, 1.8 304 1457 11.85 g/cm ³ [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ¹	82 Blei 207.2 Pb 1.6, 1.9 328 271 11.34 g/cm ³ [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ²	83 Wismut 208.98040 Bi 1.7, 1.9 271 1560 9.8 g/cm ³ [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ³	84 Polonium 208.9824 Po 1.8, 2.0 254 962 2.4,6 9.4 g/cm ³ [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴	85 Astat 209.9871 At 2.0, 2.2 302 337 -1,1,3,5,7 [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁵	86 Radon 222.0176 Rn -71 -62 9.72 g/l [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁶																
87 Francium 223.0197 Fr 0.9, 0.7 27 677 [Rn]7s ¹	88 Radium 226.0254 Ra 1.0, 0.9 700 1140 5 g/cm ³ [Rn]7s ²	89-103 Actinide Ac-Lr	104 Rutherfordium 261.1087 Rf 261.1087 [Rn]5f ¹⁴ 6d ² 7s ²	105 Dubnium 262.1138 Db 262.1138 [Rn]5f ¹⁴ 6d ³ 7s ²	106 Seaborgium 263.1182 Sg 263.1182 [Rn]5f ¹⁴ 6d ⁴ 7s ²	107 Bohrium 262.1229 Bh 262.1229 [Rn]5f ¹⁴ 6d ⁵ 7s ²	108 Hassium 265.1306 Hs 265.1306 [Rn]5f ¹⁴ 6d ⁶ 7s ²	109 Meitnerium 271 Mt 271 [Rn]5f ¹⁴ 6d ⁷ 7s ²	110 Darmstadtium 272 Ds 272 [Rn]5f ¹⁴ 6d ⁸ 7s ²	111 Roentgenium 284 Rg 284 [Rn]5f ¹⁴ 6d ⁹ 7s ²																							
Lanthaniden		57 Lanthan 138.90547 La 1.1, 1.0 920 3454 6.16 g/cm ³ [Xe]5d ¹ 6s ²	58 Cer 140.116 Ce 1.1, 1.1 798 3257 6.78 g/cm ³ [Xe]4f ¹ 6s ²	59 Praseodym 140.90765 Pr 1.1, 1.1 931 3212 6.77 g/cm ³ [Xe]4f ² 6s ²	60 Neodym 144.242 Nd 1.1, 1.1 1010 3127 7.0 g/cm ³ [Xe]4f ³ 6s ²	61 Promethium 146.915 Pm 1.1 1080 2730 6.475 g/cm ³ [Xe]4f ⁴ 6s ²	62 Samarium 150.36 Sm 1.1, 1.2 1072 1778 7.54 g/cm ³ [Xe]4f ⁵ 6s ²	63 Europium 151.964 Eu 1.0 822 1597 5.259 g/cm ³ [Xe]4f ⁶ 6s ²	64 Gadolinium 157.25 Gd 1.1, 1.2 1311 3233 7.895 g/cm ³ [Xe]4f ⁷ 5d ¹ 6s ²	65 Terbium 158.92535 Tb 1.1, 1.2 1360 3041 8.27 g/cm ³ [Xe]4f ⁸ 6s ²	66 Dysprosium 162.50 Dy 1.1, 1.2 1406 2335 8.536 g/cm ³ [Xe]4f ⁹ 6s ²	67 Holmium 164.93032 Ho 1.1, 1.2 1470 2510 8.80 g/cm ³ [Xe]4f ¹⁰ 6s ²	68 Erbium 167.259 Er 1.1, 1.2 1522 2510 9.05 g/cm ³ [Xe]4f ¹¹ 6s ²	69 Thulium 168.93421 Tm 1.1, 1.2 1547 1727 9.33 g/cm ³ [Xe]4f ¹² 6s ²	70 Ytterbium 173.04 Yb 1.1, 1.1 824 1193 6.98 g/cm ³ [Xe]4f ¹³ 6s ²	71 Lutetium 174.967 Lu 1.1, 1.2 1656 3315 9.85 g/cm ³ [Xe]4f ¹⁴ 5d ¹ 6s ²																	
Actiniden		89 Actinium 227.0278 Ac 1.0, 1.1 1047 3197 10.07 g/cm ³ [Rn]6d ¹ 7s ²	90 Thorium 232.03806 Th 1.1, 1.3 1750 4787 11.7 g/cm ³ [Rn]6d ² 7s ²	91 Protactinium 231.03588 Pa 1.1, 1.5 1554 4030 15.4 g/cm ³ [Rn]5f ² 6d ¹ 7s ²	92 Uran 238.02891 U 1.2, 1.2 1132 3818 19.07 g/cm ³ [Rn]5f ³ 6d ¹ 7s ²	93 Neptunium 237.0482 Np 1.2, 1.3 641 3902 20.45 g/cm ³ [Rn]5f ⁴ 6d ¹ 7s ²	94 Plutonium 244.0642 Pu 1.2, 1.3 641 3327 19.8 g/cm ³ [Rn]5f ⁶ 7s ²	95 Americium 243.0614 Am 1.2, 1.2 994 2607 13.6 g/cm ³ [Rn]5f ⁷ 7s ²	96 Curium 247.0703 Cm 1.2 1340 3100 13.5 g/cm ³ [Rn]5f ⁸ 6d ¹ 7s ²	97 Berkelium 247.0703 Bk 1.2, 1.2 986 3100 14.79 g/cm ³ [Rn]5f ⁹ 7s ²	98 Californium 251.0796 Cf 1.2, 1.2 900 3100 15.1 g/cm ³ [Rn]5f ¹⁰ 7s ²	99 Einsteinium 252.0829 Es 1.2 860 900 8.84 g/cm ³ [Rn]5f ¹¹ 7s ²	100 Fermium 257.0951 Fm 1.2 860 900 [Rn]5f ¹² 7s ²	101 Mendelevium 258.0986 Md 1.2 860 900 [Rn]5f ¹³ 7s ²	102 Nobelium 259.1009 No 1.2 860 900 [Rn]5f ¹⁴ 7s ²	103 Lawrencium 262.11 Lr 1.2 860 900 [Rn]5f ¹⁴ 6d ¹ 7s ²																	