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Densities of the elements (data page)

Density, solid phase

In the following table, the **use** row is the value recommended for use in other Wikipedia pages in order to maintain consistency across content.

2 He helium-4		
Hoffer et al.	0.19085 g/cm^3	(from 20.9730 cm^3/mole; hcp crystal melting to He-II superfluid at 0 K, 25.00 atm)
	0.19083 g/cm^3	(from 20.9749 cm^3/mole; at local min. density, hcp melting to He-II: 0.884 K, 25.00 atm)
	0.19142 g/cm^3	(from 20.910 cm^3/mole; hcp at triple point hcp−bcc−He-II: 1.463 K, 26.036 atm)
	0.18971 g/cm^3	(from 21.098 cm^3/mole; bcc at triple point hcp−bcc−He-II: 1.463 K, 26.036 atm)
	0.19406 g/cm^3	(from 20.626 cm^3/mole; hcp at triple point hcp−bcc−He-I: 1.772 K, 30.016 atm)
	0.19208 g/cm^3	(from 20.8381 cm^3/mole; bcc at triple point hcp−bcc−He-I: 1.772 K, 30.016 atm)
3 Li lithium		
use	**0.534 g/cm^3**	
WEL	(near r.t.) 535 kg/m^3	
LNG	(at 20 °C) 0.534 g/cm^3	
CRC	(near r.t.) 0.534 g/cm^3	
4 Be beryllium		
use	**1.85 g/cm^3**	
WEL	(near r.t.) 1848 kg/m^3	
LNG	(at 20 °C) 1.8477 g/cm^3	
CRC	(near r.t.) 1.85 g/cm^3	
5 B boron		
use	**2.34 g/cm^3**	
WEL	(near r.t.) 2460 kg/m^3	
LNG	(at r.t.) 2.34 g/cm^3	
CRC	(near r.t.) 2.34 g/cm^3	
6 C carbon (graphite)		
use	**2.267 g/cm^3**	
WEL	(near r.t.) 2267 kg/m^3	
LNG	(at r.t.) 2.267 g/cm^3	
CRC	(near r.t.) 2.2 g/cm^3	
6 C carbon (diamond)		
use	**3.513 g/cm^3**	
LNG	(at r.t.) 3.513 g/cm^3	
CRC	(near r.t.) 3.513 g/cm^3	
11 Na sodium		
use	**0.968 g/cm^3**	

WEL	(near r.t.) 968 kg/m^3
LNG	(at 20 °C) 0.968 g/cm^3
CRC	(near r.t.) 0.97 g/cm^3
12 Mg magnesium	
use	**1.738 g/cm^3**
WEL	(near r.t.) 1738 kg/m^3
LNG	(at 20 °C) 1.738 g/cm^3
CRC	(near r.t.) 1.74 g/cm^3
13 Al aluminium	
use	**2.70 g/cm^3**
WEL	(near r.t.) 2700 kg/m^3
LNG	(at r.t.) 2.70 g/cm^3
CRC	(near r.t.) 2.70 g/cm^3
14 Si silicon	
use	**2.33 g/cm^3**
WEL	(near r.t.) 2330 kg/m^3
LNG	(at r.t.) 2.33 g/cm^3
CRC	(near r.t.) 2.3290 g/cm^3
15 P phosphorus (white)	
use	**1.823 g/cm^3**
WEL	(near r.t.) 1823 kg/m^3
LNG	(at 25 °C) 1.823 g/cm^3
CRC	(near r.t.) 1.823 g/cm^3
15 P phosphorus (red)	
use	**2.34 g/cm^3**
LNG	(at r.t.) 2.34 g/cm^3
CRC	(near r.t.) 2.16 g/cm^3
15 P phosphorus (black)	
use	**2.69 g/cm^3**
CRC	(near r.t.) 2.69 g/cm^3
16 S sulfur (orthorhombic, alpha)	
use	**2.08 g/cm^3**
WEL	? (1960 kg/m^3)

LNG	(at 20 °C) 2.08 g/cm^3
CRC	(near r.t.) 2.07 g/cm^3
16 S sulfur (monoclinic, beta)	
use	**1.96 g/cm^3**
WEL	? (1960 kg/m^3)
LNG	(at r.t.) 1.96 g/cm^3
CRC	? (near r.t.) 2.07 g/cm^3
16 S sulfur (gamma)	
use	**1.92 g/cm^3**
LNG	(at r.t.) 1.92 g/cm^3
19 K potassium	
use	**0.89 g/cm^3**
WEL	(near r.t.) 856 kg/m^3
LNG	(at r.t.) 0.89 g/cm^3
CRC	(near r.t.) 0.89 g/cm^3
20 Ca calcium	
use	**1.55 g/cm^3**
WEL	(near r.t.) 1550 kg/m^3
LNG	(at r.t.) 1.55 g/cm^3
CRC	(near r.t.) 1.54 g/cm^3
21 Sc scandium (hexagonal ?)	
use	**2.985 g/cm^3**
WEL	(near r.t.) 2985 kg/m^3
LNG	(at r.t.) (hexagonal) 2.985 g/cm^3
CRC	(near r.t.) 2.99 g/cm^3
22 Ti titanium (hexagonal ?)	
use	**4.506 g/cm^3**
WEL	(near r.t.) 4507 kg/m^3
LNG	(at r.t.) (hexagonal) 4.506 g/cm^3
CRC	(near r.t.) 4.506 g/cm^3
23 V vanadium	
use	**6.11 g/cm^3**
WEL	(near r.t.) 6110 kg/m^3

LNG	(at 19 °C) 6.11 g/cm^3
CRC	(near r.t.) 6.0 g/cm^3
24 Cr chromium	
use	**7.15 g/cm^3**
WEL	(near r.t.) 7140 kg/m^3
LNG	(at r.t.) 7.15 g/cm^3
CRC	(near r.t.) 7.15 g/cm^3
25 Mn manganese	
use	**7.21 g/cm^3**
WEL	(near r.t.) 7470 kg/m^3
LNG	(at 20 °C) 7.21 g/cm^3
CRC	(near r.t.) 7.3 g/cm^3
26 Fe iron	
use	**7.86 g/cm^3**
WEL	(near r.t.) 7874 kg/m^3
LNG	(at r.t.) 7.86 g/cm^3
CRC	(near r.t.) 7.87 g/cm^3
27 Co cobalt	
use	**8.90 g/cm^3**
WEL	(near r.t.) 8900 kg/m^3
LNG	(at r.t.) 8.90 g/cm^3
CRC	(near r.t.) 8.86 g/cm^3
28 Ni nickel	
use	**8.908 g/cm^3**
WEL	(near r.t.) 8908 kg/m^3
LNG	(at 20 °C) 8.908 g/cm^3
CRC	(near r.t.) 8.90 g/cm^3
29 Cu copper	
use	**8.96 g/cm^3**
WEL	(near r.t.) 8920 kg/m^3
LNG	(at 20 °C) 8.96 g/cm^3
CRC	(near r.t.) 8.96 g/cm^3
30 Zn zinc	

use	**7.14 g/cm^3**
WEL	(near r.t.) 7140 kg/m^3
LNG	(at r.t.) 7.14 g/cm^3
CRC	(near r.t.) 7.14 g/cm^3
31 Ga gallium	
use	**5.91 g/cm^3**
WEL	(near r.t.) 5904 kg/m^3
LNG	(at 29.6 °C) 5.904 g/cm^3
CRC	(near r.t.) 5.91 g/cm^3
32 Ge germanium	
use	**5.323 g/cm^3**
WEL	(near r.t.) 5323 kg/m^3
LNG	(at r.t.) 5.323 g/cm^3
CRC	(near r.t.) 5.3234 g/cm^3
33 As arsenic	
use	**5.727 g/cm^3**
WEL	(near r.t.) 5727 kg/m^3
LNG	(at 25 °C) (5.727 rel. to water at 4 °C)
CRC	(near r.t.) 5.75 g/cm^3
34 Se selenium (hexagonal, gray)	
use	**4.81 g/cm^3**
WEL	(near r.t.) 4819 kg/m^3
LNG	(at 20 °C) (4.81 rel. to water at 4 °C)
CRC	(near r.t.) 4.81 g/cm^3
34 Se selenium (alpha)	
use	**4.39 g/cm^3**
WEL	? (4819 kg/m^3)
CRC	(near r.t.) 4.39 g/cm^3
34 Se selenium (vitreous)	
use	**4.28 g/cm^3**
WEL	? (4819 kg/m^3)
CRC	(near r.t.) 4.28 g/cm^3
37 Rb rubidium	

use	**1.532 g/cm^3**
WEL	(near r.t.) 1532 kg/m^3
LNG	(at r.t.) 1.532 g/cm^3
CRC	(near r.t.) 1.53 g/cm^3
38 Sr strontium	
use	**2.64 g/cm^3**
WEL	(near r.t.) 2630 kg/m^3
LNG	(at r.t.) 2.64 g/cm^3
CRC	(near r.t.) 2.64 g/cm^3
39 Y yttrium	
use	**4.472 g/cm^3**
WEL	(near r.t.) 4472 kg/m^3
LNG	(at r.t.) 4.472 g/cm^3
CRC	(near r.t.) 4.47 g/cm^3
40 Zr zirconium	
use	**6.52 g/cm^3**
WEL	(near r.t.) 6511 kg/m^3
LNG	(at r.t.) 6.52 g/cm^3
CRC	(near r.t.) 6.52 g/cm^3
41 Nb niobium	
use	**8.57 g/cm^3**
WEL	(near r.t.) 8570 kg/m^3
LNG	(at 20 °C) 8.57 g/cm^3
CRC	(near r.t.) 8.57 g/cm^3
42 Mo molybdenum	
use	**10.28 g/cm^3**
WEL	(near r.t.) 10280 kg/m^3
LNG	(at r.t.) 10.28 g/cm^3
CRC	(near r.t.) 10.2 g/cm^3
43 Tc technetium (Tc-98 ?)	
use	**11 g/cm^3**
WEL	(near r.t.) 11500 kg/m^3
LNG	(at r.t.) (Tc-98) 11 g/cm^3

CRC	(near r.t.) 11 g/cm^3
44 Ru ruthenium	
use	**12.45 g/cm^3**
WEL	(near r.t.) 12370 kg/m^3
LNG	(at 20 °C) (12.45 rel. to water at 4 °C)
CRC	(near r.t.) 12.1 g/cm^3
45 Rh rhodium	
use	**12.41 g/cm^3**
WEL	(near r.t.) 12450 kg/m^3
LNG	(at 20 °C) 12.41 g/cm^3
CRC	(near r.t.) 12.4 g/cm^3
46 Pd palladium	
use	**12.023 g/cm^3**
WEL	(near r.t.) 12023 kg/m^3
LNG	(at 20 °C) 12.023 g/cm^3
CRC	(near r.t.) 12.0 g/cm^3
47 Ag silver	
use	**10.49 g/cm^3**
WEL	(near r.t.) 10490 kg/m^3
LNG	(at r.t.) 10.49 g/cm^3
CRC	(near r.t.) 10.5 g/cm^3
48 Cd cadmium	
use	**8.65 g/cm^3**
WEL	(near r.t.) 8650 kg/m^3
LNG	(at 25 °C) 8.65 g/cm^3
CRC	(near r.t.) 8.69 g/cm^3
49 In indium	
use	**7.31 g/cm^3**
WEL	(near r.t.) 7310 kg/m^3
LNG	(at r.t.) 7.31 g/cm^3
CRC	(near r.t.) 7.31 g/cm^3
50 Sn tin (white)	
use	**7.265 g/cm^3**

WEL	(near r.t.) 7310 kg/m^3
LNG	(at r.t.) 7.265 g/cm^3
CRC	(near r.t.) 7.265 g/cm^3
50 Sn tin (gray)	
use	**5.769 g/cm^3**
CRC	(near r.t.) 5.769 g/cm^3
51 Sb antimony	
use	**6.697 g/cm^3**
WEL	(near r.t.) 6697 kg/m^3
LNG	(at 25 °C) 6.697 g/cm^3
CRC	(near r.t.) 6.68 g/cm^3
52 Te tellurium	
use	**6.24 g/cm^3**
WEL	(near r.t.) 6240 kg/m^3
LNG	(at r.t.) 6.24 g/cm^3
CRC	(near r.t.) 6.24 g/cm^3
53 I iodine (I_2)	
use	**4.933 g/cm^3**
WEL	(near r.t.) 4940 kg/m^3
LNG	(at 25 °C) 4.63 g/cm^3
CRC	(near r.t.) 4.933 g/cm^3
55 Cs caesium	
use	**1.93 g/cm^3**
WEL	(near r.t.) 1879 kg/m^3
LNG	(at 15 °C) 1.8785 g/cm^3
CRC	(near r.t.) 1.93 g/cm^3
56 Ba barium	
use	**3.51 g/cm^3**
WEL	(near r.t.) 3510 kg/m^3
LNG	(at 20 °C) 3.51 g/cm^3
CRC	(near r.t.) 3.62 g/cm^3
57 La lanthanum	
use	**6.162 g/cm^3**

WEL	(near r.t.) 6146 kg/m^3
LNG	(at r.t.) 6.162 g/cm^3
CRC	(near r.t.) 6.15 g/cm^3
58 Ce cerium	
use	**6.770 g/cm^3**
WEL	(near r.t.) 6689 kg/m^3
LNG	(at r.t.) 6.773 g/cm^3
CRC	(near r.t.) 6.770 g/cm^3
59 Pr praseodymium (alpha ?)	
use	**6.77 g/cm^3**
WEL	(near r.t.) 6640 kg/m^3
LNG	(at r.t.) (alpha) 6.475 g/cm^3
CRC	(near r.t.) 6.77 g/cm^3
60 Nd neodymium	
use	**7.01 g/cm^3**
WEL	(near r.t.) 6800 kg/m^3
LNG	(at r.t.) 7.01 g/cm^3
CRC	(near r.t.) 7.01 g/cm^3
61 Pm promethium (Pm-147 ?)	
use	**7.26 g/cm^3**
WEL	(near r.t.) 7264 kg/m^3
LNG	(at r.t.) (Pm-147) 7.22 g/cm^3
CRC	(near r.t.) 7.26 g/cm^3
62 Sm samarium	
use	**7.52 g/cm^3**
WEL	(near r.t.) 7353 kg/m^3
LNG	(at r.t.) 7.52 g/cm^3
CRC	(near r.t.) 7.52 g/cm^3
63 Eu europium	
use	**5.244 g/cm^3**
WEL	(near r.t.) 5244 kg/m^3
LNG	(at r.t.) 5.244 g/cm^3
CRC	(near r.t.) 5.24 g/cm^3

64 Gd gadolinium	
use	**7.90 g/cm^3**
WEL	(near r.t.) 7901 kg/m^3
LNG	(at r.t.) 7.90 g/cm^3
CRC	(near r.t.) 7.90 g/cm^3
65 Tb terbium	
use	**8.23 g/cm^3**
WEL	(near r.t.) 8219 kg/m^3
LNG	(at r.t.) 8.23 g/cm^3
CRC	(near r.t.) 8.23 g/cm^3
66 Dy dysprosium	
use	**8.540 g/cm^3**
WEL	(near r.t.) 8551 kg/m^3
LNG	(at 25 °C) 8.540 g/cm^3
CRC	(near r.t.) 8.55 g/cm^3
67 Ho holmium	
use	**8.79 g/cm^3**
WEL	(near r.t.) 8795 kg/m^3
LNG	(at r.t.) 8.79 g/cm^3
CRC	(near r.t.) 8.80 g/cm^3
68 Er erbium	
use	**9.066 g/cm^3**
WEL	(near r.t.) 9066 kg/m^3
LNG	(at r.t.) 9.066 g/cm^3
CRC	(near r.t.) 9.07 g/cm^3
69 Tm thulium	
use	**9.32 g/cm^3**
WEL	(near r.t.) 9321 kg/m^3
LNG	(at r.t.) 9.32 g/cm^3
CRC	(near r.t.) 9.32 g/cm^3
70 Yb ytterbium	
use	**6.90 g/cm^3**
WEL	(near r.t.) 6570 kg/m^3

LNG	(at r.t.) 6.90 g/cm^3
CRC	(near r.t.) 6.90 g/cm^3
71 Lu lutetium	
use	**9.841 g/cm^3**
WEL	(near r.t.) 9841 kg/m^3
LNG	(at r.t.) 9.841 g/cm^3
CRC	(near r.t.) 9.84 g/cm^3
72 Hf hafnium	
use	**13.31 g/cm^3**
WEL	(near r.t.) 13310 kg/m^3
LNG	(at r.t.) 13.31 g/cm^3
CRC	(near r.t.) 13.3 g/cm^3
73 Ta tantalum	
use	**16.69 g/cm^3**
WEL	(near r.t.) 16650 kg/m^3
LNG	(at r.t.) 16.69 g/cm^3
CRC	(near r.t.) 16.4 g/cm^3
74 W tungsten	
use	**19.25 g/cm^3**
WEL	(near r.t.) 19250 kg/m^3
LNG	(at r.t.) 19.25 g/cm^3
CRC	(near r.t.) 19.3 g/cm^3
75 Re rhenium	
use	**21.02 g/cm^3**
WEL	(near r.t.) 21020 kg/m^3
LNG	(at r.t.) 21.02 g/cm^3
CRC	(near r.t.) 20.8 g/cm^3
76 Os osmium	
use	**22.59 g/cm^3**
WEL	(near r.t.) 22610 kg/m^3
LNG	(at 20 °C) 22.61 g/cm^3
CRC	(near r.t.) 22.59 g/cm^3
77 Ir iridium	

use	**22.56 g/cm^3**
WEL	(near r.t.) 22650 kg/m^3
LNG	(at 20 °C) (22.65 rel. to water at 4 °C)
CRC	(near r.t.) 22.5 g/cm^3
78 Pt platinum	
use	**21.45 g/cm^3**
WEL	(near r.t.) 21090 kg/m^3
LNG	(at 20 °C) 21.09 g/cm^3
CRC	(near r.t.) 21.5 g/cm^3

References according to http://hypertextbook.com/facts/2004/OliviaTai.shtml:

- 21.45 g/cm^3 — Zumdahl, Steven S., Zumdahl, Susan L., & Decoste, Donald J. *World of Chemistry*. Boston: Houghton Mifflin Company, 2002: 141.
- 21.45 × 10^3 kg/m^3 — Grigoriev, Igor S. & Meilikhov, Evgenii Z. *Handbook of Physical Quantities*. Boca Raton: CRC Press, 1997: 116.
- 21.450 g/cm^3 — Savitskii, E.M. *Physical Metallurgy of Platinum Metals*. New York: Pergamon Press, 1978: 31.
- (20 °C) 21.45 g/cm^3 — Vines, R.F. *The Platinum Metals and their Alloys*. New York: The International Nickel Company, Inc., 1941: 16. — "Values ranging from 21.3 to 21.5 gm/cm^3 at 20 °C have been reported for the density of annealed platinum; the best value being about 21.45 gm/cm^3 at 20 °C."
- 21.46 g/cm^3 — Rose, T. Kirke. *The Precious Metals, Comprising Gold, Silver and Platinum*. New York: D. Van Nostrand Company, 1909: 255. — "Pure platinum, according to G. Matthey has a density of 21.46."

79 Au gold	
use	**19.3 g/cm^3**
WEL	(near r.t.) 19300 kg/m^3
LNG	(at r.t.) 19.3 g/cm^3
CRC	(near r.t.) 19.3 g/cm^3
81 Tl thallium	
use	**11.85 g/cm^3**
WEL	(near r.t.) 11850 kg/m^3
LNG	(at r.t.) 11.85 g/cm^3
CRC	(near r.t.) 11.8 g/cm^3
82 Pb lead	
use	**11.34 g/cm^3**
WEL	(near r.t.) 11340 kg/m^3
LNG	(at 20 °C) (face-centered cubic) (11.34 rel. to water at 4 °C)
CRC	(near r.t.) 11.3 g/cm^3
83 Bi bismuth	

use	**9.78 g/cm^3**
WEL	(near r.t.) 9780 kg/m^3
LNG	(at r.t.) 9.78 g/cm^3
CRC	(near r.t.) 9.79 g/cm^3
84 Po polonium (alpha)	
use	**9.196 g/cm^3**
WEL	(near r.t.) 9196 kg/m^3
LNG	(at r.t.) 9.196 g/cm^3
CRC	(near r.t.) 9.20 g/cm^3
84 Po polonium (beta)	
use	**9.398 g/cm^3**
LNG	(at r.t.) 9.398 g/cm^3
85 At astatine	
use	**? 7 g/cm^3**
87 Fr francium	
use	**? 2.48 g/cm^3**
88 Ra radium	
use	**5.5 g/cm^3**
WEL	(near r.t.) 5000 kg/m^3
LNG	(at r.t.) 5.5 g/cm^3
CRC	(near r.t.) 5 g/cm^3
89 Ac actinium (Ac-227 ?)	
use	**10 g/cm^3**
WEL	(near r.t.) 10070 kg/m^3
LNG	(at r.t.) (Ac-227) 10.07 g/cm^3
CRC	(near r.t.) 10 g/cm^3
90 Th thorium	
use	**11.7 g/cm^3**
WEL	(near r.t.) 11724 kg/m^3
LNG	(at r.t.) 11.7 g/cm^3
CRC	(near r.t.) 11.7 g/cm^3
91 Pa protactinium	
use	**15.37 g/cm^3**

WEL	(near r.t.) 15370 kg/m^3
CRC	(near r.t.) 15.4 g/cm^3
92 U uranium	
use	**19.1 g/cm^3**
WEL	(near r.t.) 19050 kg/m^3
LNG	(at r.t.) 19.1 g/cm^3
CRC	(near r.t.) 19.1 g/cm^3
93 Np neptunium	
use	**20.2 g/cm^3**
WEL	(near r.t.) 20450 kg/m^3
LNG	(at r.t.) 20.2 g/cm^3
CRC	(near r.t.) 20.2 g/cm^3
94 Pu plutonium	
use	**19.816 g/cm^3**
WEL	(near r.t.) 19816 kg/m^3
LNG	(at 20 °C) (19.816 rel. to water at 4 °C)
CRC	(near r.t.) 19.7 g/cm^3
95 Am americium	
use	**12 g/cm^3**
LNG	(at r.t.) 12 g/cm^3
CRC	(near r.t.) 12 g/cm^3
96 Cm curium (Cm-244 ?)	
use	**13.51 g/cm^3**
WEL	(near r.t.) 13510 kg/m^3
LNG	(at r.t.) (Cm-244) 13.51 g/cm^3
CRC	(near r.t.) 13.51 g/cm^3
97 Bk berkelium (alpha)	
use	**14.78 g/cm^3**
WEL	(near r.t.) 14780 kg/m^3
LNG	(at r.t.) 14.78 g/cm^3
CRC	(near r.t.) 14.78 g/cm^3
97 Bk berkelium (beta)	
use	**13.25 g/cm^3**

LNG	(at r.t.) 13.25 g/cm^3
CRC	(near r.t.) 13.25 g/cm^3
98 Cf californium	
use	**15.1 g/cm^3**
WEL	(near r.t.) 15100 kg/m^3
CRC	(near r.t.) 15.1 g/cm^3
99 Es einsteinium	
use	**8.84 g/cm^3**
LNG	(at r.t.) 8.84 g/cm^3

Density, liquid phase

2 He helium-4	
Donnelly et al.	0.1249772 g/cm^3 (He-I at boiling point: 4.222 K)
	0.1461087 g/cm^3 (at lambda transition He-I/He-II: 2.1768 K, saturated vapor pressure)
	0.1451397 g/cm^3 (He-II superfluid at 0 K, saturated vapor pressure)
Hoffer et al.	0.17309 g/cm^3 (from 23.125 cm^3/mole; He-II from hcp melt at 0 K, 25.00 atm)
	0.17308 g/cm^3 (from 23.1256 cm^3/mole; at local min. density, from hcp melt at 0.699 K, 24.993 atm)
	0.17443 g/cm^3 (from 22.947 cm^3/mole; He-II at triple point hcp−bcc−He-II: 1.463 K, 26.036 atm)
	0.1807 g/cm^3 (from 22.150 cm^3/mole; He-I at triple point hcp−bcc−He-I: 1.772 K, 30.016 atm)
3 Li lithium	
use	**0.512 g/cm^3**
CR2	(at m.p.) 0.512 g/cm^3
4 Be beryllium	
use	**1.690 g/cm^3**
CR2	(at m.p.) 1.690 g/cm^3
5 B boron	
use	**2.08 g/cm^3**
CR2	(at m.p.) 2.08 g/cm^3
11 Na sodium	
use	**0.927 g/cm^3**
CR2	(at m.p.) 0.927 g/cm^3
12 Mg magnesium	
use	**1.584 g/cm^3**
CR2	(at m.p.) 1.584 g/cm^3
13 Al aluminium	
use	**2.375 g/cm^3**
CR2	(at m.p.) 2.375 g/cm^3
14 Si silicon	
use	**2.57 g/cm^3**
CR2	(at m.p.) 2.57 g/cm^3
16 S sulfur	
use	**1.819 g/cm^3**
CR2	(at m.p.) 1.819 g/cm^3

17 Cl chlorine	
use	**(at −35 °C) 1.5649 g/cm^3**
LNG	(at −35 °C) 1.5649 g/cm^3
19 K potassium	
use	**0.828 g/cm^3**
CR2	(at m.p.) 0.828 g/cm^3
20 Ca calcium	
use	**1.378 g/cm^3**
CR2	(at m.p.) 1.378 g/cm^3
21 Sc scandium	
use	**2.80 g/cm^3**
CR2	(at m.p.) 2.80 g/cm^3
22 Ti titanium	
use	**4.11 g/cm^3**
CR2	(at m.p.) 4.11 g/cm^3
23 V vanadium	
use	**5.5 g/cm^3**
CR2	(at m.p.) 5.5 g/cm^3
24 Cr chromium	
use	**6.3 g/cm^3**
CR2	(at m.p.) 6.3 g/cm^3
25 Mn manganese	
use	**5.95 g/cm^3**
CR2	(at m.p.) 5.95 g/cm^3
26 Fe iron	
use	**6.98 g/cm^3**
CR2	(at m.p.) 6.98 g/cm^3
27 Co cobalt	
use	**7.75 g/cm^3**
CR2	(at m.p.) 7.75 g/cm^3
28 Ni nickel	
use	**7.81 g/cm^3**
CR2	(at m.p.) 7.81 g/cm^3
29 Cu copper	

use	**8.02 g/cm^3**
CR2	(at m.p.) 8.02 g/cm^3
30 Zn zinc	
use	**6.57 g/cm^3**
CR2	(at m.p.) 6.57 g/cm^3
31 Ga gallium	
use	**6.095 g/cm^3**
LNG	(at 29.8 °C, m.p. is 29.7646 °C) 6.095 g/cm^3
CR2	(at m.p.) 6.08 g/cm^3
32 Ge germanium	
use	**5.60 g/cm^3**
CR2	(at m.p.) 5.60 g/cm^3
33 As arsenic	
use	**5.22 g/cm^3**
CR2	(at m.p.) 5.22 g/cm^3
34 Se selenium	
use	**3.99 g/cm^3**
CR2	(at m.p.) 3.99 g/cm^3
35 Br bromine (Br_2)	
use	**(near r.t.) 3.1028 g/cm^3**
LNG	(at 25 °C) (3.1023 rel. to water at 4 °C)
CRC	(near r.t.) 3.1028 g/cm^3
37 Rb rubidium	
use	**1.46 g/cm^3**
CR2	(at m.p.) 1.46 g/cm^3
38 Sr strontium	
use	**6.980 g/cm^3**
CR2	(at m.p.) 6.980 g/cm^3
39 Y yttrium	
use	**4.24 g/cm^3**
CR2	(at m.p.) 4.24 g/cm^3
40 Zr zirconium	
use	**5.8 g/cm^3**
CR2	(at m.p.) 5.8 g/cm^3

42 Mo molybdenum	
use	**9.33 g/cm^3**
CR2	(at m.p.) 9.33 g/cm^3
44 Ru ruthenium	
use	**10.65 g/cm^3**
CR2	(at m.p.) 10.65 g/cm^3
45 Rh rhodium	
use	**10.7 g/cm^3**
CR2	(at m.p.) 10.7 g/cm^3
46 Pd palladium	
use	**10.38 g/cm^3**
CR2	(at m.p.) 10.38 g/cm^3
47 Ag silver	
use	**9.320 g/cm^3**
CR2	(at m.p.) 9.320 g/cm^3
48 Cd cadmium	
use	**7.996 g/cm^3**
CR2	(at m.p.) 7.996 g/cm^3
49 In indium	
use	**7.02 g/cm^3**
CR2	(at m.p.) 7.02 g/cm^3
50 Sn tin	
use	**6.99 g/cm^3**
CR2	(at m.p.) 6.99 g/cm^3
51 Sb antimony	
use	**6.53 g/cm^3**
CR2	(at m.p.) 6.53 g/cm^3
52 Te tellurium	
use	**5.70 g/cm^3**
CR2	(at m.p.) 5.70 g/cm^3
55 Cs caesium	
use	**1.843 g/cm^3**
CR2	(at m.p. (28.44 °C, near r.t.)) 1.843 g/cm^3
56 Ba barium	

use	**3.338 g/cm^3**
CR2	(at m.p.) 3.338 g/cm^3
57 La lanthanum	
use	**5.94 g/cm^3**
CR2	(at m.p.) 5.94 g/cm^3
58 Ce cerium	
use	**6.55 g/cm^3**
CR2	(at m.p.) 6.55 g/cm^3
59 Pr praseodymium	
use	**6.50 g/cm^3**
CR2	(at m.p.) 6.50 g/cm^3
60 Nd neodymium	
use	**6.89 g/cm^3**
CR2	(at m.p.) 6.89 g/cm^3
62 Sm samarium	
use	**7.16 g/cm^3**
CR2	(at m.p.) 7.16 g/cm^3
63 Eu europium	
use	**5.13 g/cm^3**
CR2	(at m.p.) 5.13 g/cm^3
64 Gd gadolinium	
use	**7.4 g/cm^3**
CR2	(at m.p.) 7.4 g/cm^3
65 Tb terbium	
use	**7.65 g/cm^3**
CR2	(at m.p.) 7.65 g/cm^3
66 Dy dysprosium	
use	**8.37 g/cm^3**
CR2	(at m.p.) 8.37 g/cm^3
67 Ho holmium	
use	**8.34 g/cm^3**
CR2	(at m.p.) 8.34 g/cm^3
68 Er erbium	
use	**8.86 g/cm^3**

CR2	(at m.p.) 8.86 g/cm^3
69 Tm thulium	
use	**8.56 g/cm^3**
CR2	(at m.p.) 8.56 g/cm^3
70 Yb ytterbium	
use	**6.21 g/cm^3**
CR2	(at m.p.) 6.21 g/cm^3
71 Lu lutetium	
use	**9.3 g/cm^3**
CR2	(at m.p.) 9.3 g/cm^3
72 Hf hafnium	
use	**12 g/cm^3**
CR2	(at m.p.) 12 g/cm^3
73 Ta tantalum	
use	**15 g/cm^3**
CR2	(at m.p.) 15 g/cm^3
74 W tungsten	
use	**17.6 g/cm^3**
CR2	(at m.p.) 17.6 g/cm^3
75 Re rhenium	
use	**18.9 g/cm^3**
CR2	(at m.p.) 18.9 g/cm^3
76 Os osmium	
use	**20 g/cm^3**
CR2	(at m.p.) 20 g/cm^3
77 Ir iridium	
use	**19 g/cm^3**
CR2	(at m.p.) 19 g/cm^3
78 Pt platinum	
use	**19.77 g/cm^3**
CR2	(at m.p.) 19.77 g/cm^3
79 Au gold	
use	**17.31 g/cm^3**
CR2	(at m.p.) 17.31 g/cm^3

80 Hg mercury	
use	**(at r.t.) 13.534 g/cm^3**
LNG	(at r.t.) 13.534 g/cm^3
CRC	(near r.t.) 13.5336 g/cm^3
81 Tl thallium	
use	**11.22 g/cm^3**
CR2	(at m.p.) 11.22 g/cm^3
82 Pb lead	
use	**10.66 g/cm^3**
CR2	(at m.p.) 10.66 g/cm^3
83 Bi bismuth	
use	**10.05 g/cm^3**
CR2	(at m.p.) 10.05 g/cm^3
92 U uranium	
use	**17.3 g/cm^3**
CR2	(at m.p.) 17.3 g/cm^3
94 Pu plutonium	
use	**16.63 g/cm^3**
CR2	(at m.p.) 16.63 g/cm^3

Density, gas phase

	value	conditions
1 H hydrogen (H_2)		
use	**0.08988 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 0.082 g/L	25 °C, 101.325 kPa
KCH	0.08988 kg/m^3	0 °C, 101.3 kPa
VDW	0.08988 g/L	0 °C, 101.325 kPa
	(lit. source) 0.08988 g/L	
2 He helium		
use	**0.1786 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 0.164 g/L	25 °C, 101.325 kPa
LNG	0.176 g/L	room temperature
KCH	0.1785 kg/m^3	0 °C, 101.3 kPa
VDW	0.1786 g/L	0 °C, 101.325 kPa
	(lit. source) 0.1785 g/L	0 °C, 1 atm
7 N nitrogen (N_2)		
use	**1.251 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 1.145 g/L	25 °C, 101.325 kPa
LNG	1.165 g/L	20 °C
KCH	1.2505 kg/m^3	0 °C, 101.3 kPa
VDW	1.251 g/L	0 °C, 101.325 kPa
	(lit. source) 1.2506 g/L	
8 O oxygen (O_2)		
use	**1.429 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 1.308 g/L	25 °C, 101.325 kPa
LNG	1.331 g/L	20 °C
KCH	1.42895 kg/m^3	0 °C, 101.3 kPa

VDW	1.429 g/L	0 °C, 101.325 kPa
	(lit. source) 1.429 g/L	0 °C
9 F fluorine (F_2)		
use	**1.7 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 1.553 g/L	25 °C, 101.325 kPa
VDW	(lit. source) 1.696 g/L	
[1] (https://encyclopedia.airliquide.com/fluorine)	1.6074 kg/m^3	15 °C, 1.013 bar
[2] (http://www.airproducts.com/products/fastfacts/properties/fluorine.asp) Archived (https://web.archive.org/web/20070928010834/http://www.airproducts.com/products/fastfacts/properties/fluorine.asp) 2007-09-28 at the Wayback Machine	0.0983 lb/ft^3	70 °F (21 °C), 1 atm
10 Ne neon		
use	**0.9002 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 0.825 g/L	25 °C, 101.325 kPa
LNG	0.8999 g/L	0 °C
KCH	0.9002 kg/m^3	0 °C, 101.3 kPa
VDW	0.9002 g/L	0 °C, 101.325 kPa
	(lit. source) 0.89990 g/L	0 °C, 1 atm
17 Cl chlorine (Cl_2)		
use	**3.2 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 2.898 g/L	25 °C, 101.325 kPa
LNG	2.98 g/L	20 °C
KCH	3.214 kg/m^3	0 °C, 101.3 kPa
VDW	3.116 g/L	0 °C, 101.325 kPa
	(lit. source) 3.214 g/L	
18 Ar argon		
use	**1.784 g/L**	**0 °C, 101.325 kPa**

CRC	(calc. ideal gas) 1.633 g/L	25 °C, 101.325 kPa
LNG	1.7824 g/L	0 °C
KCH	1.784 kg/m^3	0 °C, 101.3 kPa
VDW	1.784 g/L	0 °C, 101.325 kPa
	(lit. source) 1.7837 g/L	
36 Kr krypton		
use	**3.749 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 3.425 g/L	25 °C, 101.325 kPa
LNG	3.7493 g/L	room temperature
KCH	3.744 kg/m^3	0 °C, 101.3 kPa
VDW	3.749 g/L	0 °C, 101.325 kPa
	(lit. source) 3.733 g/L	0 °C
54 Xe xenon		
use	**5.894 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 5.366 g/L	25 °C, 101.325 kPa
LNG	5.761 g/L	room temperature
KCH	5.897 kg/m^3	0 °C, 101.3 kPa
VDW	5.894 g/L	0 °C, 101.325 kPa
	(lit. source) 5.88 g/L	
86 Rn radon (Radon-222 ?)		
use	**9.73 g/L**	**0 °C, 101.325 kPa**
CRC	(calc. ideal gas) 9.074 g/L	25 °C, 101.325 kPa
LNG	9.73 g/L	room temperature
VDW	(lit. source) 9.73 g/L	

ICT.a	9.73 g/L	0 °C, 1 A_n (=101.325 kPa) formula weight = 222

Notes

- The suggested values for solid densities refer to "near room temperature (r.t.)" by default.
- The suggested values for liquid densities refer to "at the melting point (m.p.)" by default.

See also

- Hardnesses of the elements (data page)

References

WEL

As quoted at http://www.webelements.com/ from these sources:

- A.M. James and M.P. Lord in *Macmillan's Chemical and Physical Data*, Macmillan, London, UK, 1992.
- D.R. Lide, (ed.) in *Chemical Rubber Company handbook of chemistry and physics*, CRC Press, Boca Raton, Florida, USA, 77th edition, 1996.
- J.A. Dean (ed) in *Lange's Handbook of Chemistry*, McGraw-Hill, New York, USA, 14th edition, 1992.
- G.W.C. Kaye and T.H. Laby in *Tables of physical and chemical constants*, Longman, London, UK, 15th edition, 1993.

CRC

As quoted from various sources in an online version of:

- David R. Lide (ed), *CRC Handbook of Chemistry and Physics, 84th Edition*. CRC Press. Boca Raton, Florida, 2003; Section 4, Properties of the Elements and Inorganic Compounds; Physical Constants of Inorganic Compounds

CR2

- David R. Lide (ed), *CRC Handbook of Chemistry and Physics, 84th Edition*. CRC Press. Boca Raton, Florida, 2003; Section 4, Properties of the Elements and Inorganic Compounds; Density of Molten Elements and Representative Salts

LNG

As quoted from an online version of:

- J.A. Dean (ed), *Lange's Handbook of Chemistry* (15th Edition), McGraw-Hill, 1999; Section 3; Table 3.2 Physical Constants of Inorganic Compounds

VDW

The following molar volumes and densities for the majority of the gaseous elements were calculated from the van der Waals equation of state, using the quoted values of the van der Waals constants. The source for the van der Waals constants and for the literature densities was: R. C. Weast (Ed.), *Handbook of Chemistry and Physics (53rd Edn.)*, Cleveland:Chemical Rubber Co., 1972.

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- Donnelly, Russell J.; Barenghi, Carlo F. (1998). "The Observed Properties of Liquid Helium at the Saturated Vapor Pressure". *Journal of Physical and Chemical Reference Data*. **27** (6): 1217–74. Bibcode:1998JPCRD..27.1217D (https://ui.adsabs.harvard.edu/abs/1998JPCRD..27.1217D). doi:10.1063/1.556028 (https://doi.org/10.1063%2F1.556028).

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- Hoffer, J. K.; Gardner, W. R.; Waterfield, C. G.; Phillips, N. E. (April 1976). "Thermodynamic properties of ^{4}He. II. The bcc phase and the P-T and VT phase diagrams below 2 K". *Journal of Low Temperature Physics*. **23** (1): 63–102. Bibcode:1976JLTP...23...63H (https://ui.adsabs.harvard.edu/abs/1976JLTP...23...63H). doi:10.1007/BF00117245 (https://doi.org/10.1007%2FBF00117245). S2CID 120473493 (https://api.semanticscholar.org/CorpusID:120473493).

	van der Waals constants		25 °C, 100.0 kPa		0 °C, 1 atm		Lit.
	a **(L^2·bar/mol^2)**	***b*** **(L/mol)**	V_m **(L)**	***d*** **(g/L)**	V_m **(L)**	***d*** **(g/L)**	***d*** **(g/L)**
Argon	1.363	0.03219	24.77	1.613	22.39	1.784	1.7837
Chlorine	6.579	0.05622	25.11	2.824	22.75	3.116	3.214
Fluorine	*not available*						1.696
Helium	0.03457	0.02370	24.81	0.1613	22.44	0.1786	0.1785 (0 °C, 1 atm)
Hydrogen	0.2476	0.02661	24.81	0.08127	22.43	0.08988	0.08988
Krypton	2.349	0.03978	24.73	3.388	22.35	3.749	3.733 (0 °C)
Neon	0.2135	0.01709	24.80	0.8139	22.42	0.9002	0.89990 (0 °C, 1 atm)
Nitrogen	1.408	0.03913	24.77	1.131	22.39	1.251	1.2506
Oxygen	1.378	0.03183	24.77	1.292	22.39	1.429	1.429 (0 °C)
Radon	*not available*						9.73
Xenon	4.250	0.05105	24.69	5.323	22.28	5.894	5.88

Other

- KCH: Kuchling, Horst, *Taschenbuch der Physik*, 13. Auflage, Verlag Harri Deutsch, Thun und Frankfurt/Main, German edition, 1991. ISBN 3-8171-1020-0

(**a**) Gray and Ramsay, *Proceedings of the Royal Society* (London). A. Mathematical and Physical Sciences. **84**: 536; (1911)
