

Radius Covalent/v.d.Meas: 125. / 138
Heat Vaporization/Fusion 347. / 13.8
Specific Heat 449
Melting Point 1538°C /811K
Boiling Point 2561°C /3134K
Electronegativity 1.93
Electron Affinity 15.7
1st Ionization 762.5
Oxidation States 2, 3
Electron Config. [Ar]4s²3d⁶
Electron Coreg. 2.8,14,2
Electron Shells 0.1%
Abundance (Univ.) 2000
Discovered

45

Density S.T.P./Liquid 12.370 /10650
Modulus Bulk/Shear/Young 220. /173 /447
Hardness Brinell/Mo's/Vickers 2160. /6.5 /—
Conductivity Thermal/Electric 120. /14
Radius Calc.d/Empirical 178. /130
Radius Covalent/v.d.Meas 126. /—
Heat Vaporization/Fusion 580. /25.7
Specific Heat 238
Melting Point 2334°C /2607K
Boiling Point 4150°C /4423K
Electronegativity 2.22
Electron Affinity 101.3
1st Ionization 710.2
Oxidation States 3, 4
Electron Config. [Kr]5s^{4d}
Electron Coreg. 2.8,18,15,1
Electron Shells 4.0-10.7%
Abundance (Univ.) 1844
Discovered

enium
07

Density S.T.P./Liquid 22610. /20000
Modulus Bulk/Shear/Young 12227. /—
Hardness Brinell/Mo's/Vickers 3920. /7. /—
Conductivity Thermal/Electric 88. /12
Radius Calc.d/Empirical 185. /130
Radius Covalent/v.d.Meas 128. /—
Heat Vaporization/Fusion 630. /31
Specific Heat 130.
Melting Point 3033°C /3306K
Boiling Point 5012°C /5285K
Electronegativity 2.2
Electron Affinity 106.1

Radius Covalent/v.d.Meas: 126. /111
Heat Vaporization/Fusion 375. /16.2
Specific Heat 421
Melting Point 1495°C /1768K
Boiling Point 2927°C /3200K
Electronegativity 1.98
Electron Affinity 63.7
1st Ionization 760.4
Oxidation States 2, 3
Electron Config. [Ar]4s²3d⁷
Electron Coreg. 2.8,15,2
Electron Shells 0.00030%
Abundance (Univ.) 1735
Discovered

Cobalt
58.9333

Density S.T.P./Liquid 12.450 /10100
Modulus Bulk/Shear/Young 380. /150 /1275
Hardness Brinell/Mo's/Vickers 1100. /6. /1246
Conductivity Thermal/Electric 150. /23
Radius Calc.d/Empirical 173. /135
Radius Covalent/v.d.Meas 135. /—
Heat Vaporization/Fusion 495. /21.7
Specific Heat 240
Melting Point 1964°C /2237K
Boiling Point 3695°C /3968K
Electronegativity 2.28
Electron Affinity 109.7
1st Ionization 719.7
Oxidation States 3
Electron Config. [Kr]5s^{4d}
Electron Coreg. 2.8,18,16,1
Electron Shells 6.0-10.7%
Abundance (Univ.) 1803
Discovered

Rhodium
102.91

Density S.T.P./Liquid 122650. /19000
Modulus Bulk/Shear/Young 320. /210 /528
Hardness Brinell/Mo's/Vickers 1670. /6.5 /1760
Conductivity Thermal/Electric 150. /21
Radius Calc.d/Empirical 180. /135
Radius Covalent/v.d.Meas 137. /—
Heat Vaporization/Fusion 560. /26
Specific Heat 131
Melting Point 2466°C /2739K
Boiling Point 4428°C /4701K
Electronegativity 2.20
Electron Affinity 151

Radius Covalent/v.d.Meas: 121. /163
Heat Vaporization/Fusion 378. /17.2
Specific Heat 445
Melting Point 1455°C /1728K
Boiling Point 2913°C /3186K
Electronegativity 1.91
Electron Affinity 112
1st Ionization 737.1
Oxidation States 2, 1
Electron Config. [Ar]4s²3d⁸
Electron Coreg. 2.8,16,2
Electron Shells 0.0060%
Abundance (Univ.) 1751
Discovered

Nickel
58.693

Density S.T.P./Liquid 12023. /10380
Modulus Bulk/Shear/Young 180. /44. /121
Hardness Brinell/Mo's/Vickers 373. /4.75 /461
Conductivity Thermal/Electric 172. /10
Radius Calc.d/Empirical 169. /140
Radius Covalent/v.d.Meas 131. /163
Heat Vaporization/Fusion 380. /16.7
Specific Heat 240
Melting Point 1554.9°C /1828. K
Boiling Point 2963°C /3236K
Electronegativity 2.20
Electron Affinity 53.7
1st Ionization 804.4
Oxidation States 2, 4
Electron Config. [Kr]4d¹⁰
Electron Coreg. 2.8,18,18
Electron Shells 2.0-10.7%
Abundance (Univ.) 1803
Discovered

Palladium
106.42

Density S.T.P./Liquid 21090. /19170
Modulus Bulk/Shear/Young 1230. /611 /168
Hardness Brinell/Mo's/Vickers 392. /3.15 /549
Conductivity Thermal/Electric 172. /9.4
Radius Calc.d/Empirical 177. /135
Radius Covalent/v.d.Meas 128. /175
Heat Vaporization/Fusion 490. /20
Specific Heat 133
Melting Point 1768.3°C /20414K
Boiling Point 3825°C /4098K
Electronegativity 2.28
Electron Affinity 205.3

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Abundance (Univ.) 2000
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Co
63.

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Oxidation States 2, 3
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