

3

21
Sc
Scandium
44.956

Density STP/Liquid 2985 / 2800
Modulus Bulk/Shear/Young 57 / 29 / 74
Hardness Brinell/Mohs/Vickers 750 / 1 / —
Conductivity Thermal/Electric 16 / 18
Radius Calc'd/Empirical 184 / 160
Radius Covalent/vd Waals 144 / —
Heat Vaporization/Fusion 318 / 16
Specific Heat 567
Melting Point 1541°C/1814K
Boiling Point 2830°C/3103K
Electronegativity 1.36
Electron Affinity 18.1
1st Ionization 633.1
Oxidation States 3 / —
Electron Config [Ar]4s²3d¹
Electron Shells 2, 8, 9, 2
Abundance (Unv.) 3.0×10^{−6}%
Discovered 1879

39

Density STP/Liquid 4472 / 4240
Modulus Bulk/Shear/Young 41 / 26 / 64
Hardness Brinell/Mohs/Vickers 589 / 1 / —
Conductivity Thermal/Electric 17 / 18
Radius Calc'd/Empirical 212 / 180
Radius Covalent/vd Waals 162 / —
Heat Vaporization/Fusion 380 / 11.4
Specific Heat 298 / 298 / 1700

22
Ti
Titanium
47.88

Density STP/Liquid 4507 / 4507
Modulus Bulk/Shear/Young 105 / 46 / 105
Hardness Brinell/Mohs/Vickers 336 / 4 / 336
Conductivity Thermal/Electric 22 / 22
Radius Calc'd/Empirical 147 / 147
Radius Covalent/vd Waals 136 / 171
Heat Vaporization/Fusion 4690 / 11.3
Specific Heat 523
Melting Point 1668°C/1941K
Boiling Point 3560°C/3833K
Electronegativity 1.54
Electron Affinity 43.5
1st Ionization 658.1
Oxidation States 2, 3, 4
Electron Config [Ar]3d²4s²
Electron Shells 2, 8, 10, 2
Abundance (Unv.) 5.6×10^{−5}%
Discovered 1791

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