

## OVERVIEW

Full Name	Beryllium (None)
Symbol	Be
Atomic Number	4
Series	Alkaline Earth Metal
Block / Group / Period	s-block   Group 2   Period 2
Electron Config.	[He]2s <sup>2</sup>
Phase at STP	Solid
Colour	SlateGray
Discovery	1797 in France

## THERMAL PROPERTIES

Melting Point	1287 °C	°C
Melting Point (abs.)	1560 K	K
Boiling Point	2470 °C	°C
Boiling Point (abs.)	2743 K	K
Heat of Fusion	7.95 kJ/mol	kJ/mol
Heat of Vaporization	297 kJ/mol	kJ/mol
Specific Heat (solid)	1820 J/(kg K)	J/(kg·K)
Thermal Conductivity	190 W/(m K)	W/(m·K)
Thermal Expansion	0.0000113 K <sup>-1</sup>	K <sup>-1</sup>

## MECHANICAL PROPERTIES

Density (solid, STP)	1.848 g/cm <sup>3</sup>	g/cm <sup>3</sup>
Density (liquid, MP)	1.69 g/cm <sup>3</sup>	g/cm <sup>3</sup>
Young's Modulus	287 GPa	GPa
Shear Modulus	132 GPa	GPa
Bulk Modulus	130 GPa	GPa
Poisson's Ratio	0.032	
Speed of Sound	13000 m/s	m/s
Mohs Hardness	5.5	
Vickers Hardness	1670 MPa	MPa
Brinell Hardness	600 MPa	MPa

## ELECTRICAL PROPERTIES

Type	Conductor
Conductivity	2.5×10 <sup>7</sup> S/m S/m
Resistivity	3.9999999999998×10 <sup>-8</sup> mΩ·m
Superconducting Pt.	0.026 K

## MAGNETIC PROPERTIES

Type	Diamagnetic
Vol. Susceptibility	-0.00002328
Mass Susceptibility	-1.26×10 <sup>-8</sup> m <sup>3</sup> /Kg m <sup>3</sup> /kg

## REACTIVITY

Valence	2
Electronegativity	1.57 (Pauling)
Electron Affinity	0 kJ/mol kJ/mol
Ionization Energies	899.5, 1757.1 kJ/mol

## ATOMIC DIMENSIONS

Atomic Radius	112 pm pm
Covalent Radius	96 pm pm

## CRYSTAL STRUCTURE

Structure	Simple Hexagonal
Lattice Constant	228.58, 228.58, 358.43 pm
Space Group	P63/mmc #194

## ISOTOPES &amp; NUCLEAR

Stability	Stable
Stable Isotopes	9Be
Isotopic Abundance	9Be100%
Known Isotopes	5Be ■ 16Be (12 total)
Neutron Cross Sect.	0.0092 barns

## ELEMENTAL ABUNDANCES

Universe	1×10 <sup>-7</sup> % %
Earth's Crust	0.00019% %
Oceans	6×10 <sup>-11</sup> % %
Human Body	4×10 <sup>-8</sup> % %

## HEALTH &amp; SAFETY

DOT Hazard Class	6.1
RTECS Number	DS1750000
NFPA Health/Fire/Rx	0 / 0 / 0