

OVERVIEW		
Full Name	Gold (Aurum)	
Symbol	Au	
Atomic Number	79	
Series	Transition Metal	
Block / Group / Period	d-block Group 11 Period ...	
Electron Config.	[Xe]6s14f145d10	
Phase at STP	Solid	
Colour	Gold	
Discovery	2500 BC	
THERMAL PROPERTIES		
Melting Point	1064.18 °C	°C
Melting Point (abs.)	1337.33 K	K
Boiling Point	2856 °C	°C
Boiling Point (abs.)	3129 K	K
Heat of Fusion	12.5 kJ/mol	kJ/mol
Heat of Vaporization	330 kJ/mol	kJ/mol
Specific Heat (solid)	129.1 J/(kg K)	J/(kg·K)
Thermal Conductivity	320 W/(m K)	W/(m·K)
Thermal Expansion	0.0000142 K ⁻¹	K ⁻¹
MECHANICAL PROPERTIES		
Density (solid, STP)	19.3 g/cm ³	g/cm ³
Density (liquid, MP)	17.31 g/cm ³	g/cm ³
Young's Modulus	78 GPa	GPa
Shear Modulus	27 GPa	GPa
Bulk Modulus	220 GPa	GPa
Poisson's Ratio	0.44	
Speed of Sound	1740 m/s	m/s
Mohs Hardness	2.5	
Vickers Hardness	216 MPa	MPa
Brinell Hardness	2450 MPa	MPa
ELECTRICAL PROPERTIES		
Type	Conductor	
Conductivity	4.5×10 ⁷ S/m	S/m
Resistivity	2.2×10 ⁻⁸ m ?	Ohm·m
MAGNETIC PROPERTIES		
Type	Diamagnetic	
Vol. Susceptibility	-0.0000344	
Mass Susceptibility	-1.78×10 ⁻⁹ m ³ /Kg	m ³ /kg
REACTIVITY		
Valence	5	
Electronegativity	2.54	(Pauling)
Electron Affinity	222.8 kJ/mol	kJ/mol
Ionization Energies	890.1, 1980	kJ/mol
ATOMIC DIMENSIONS		
Atomic Radius	174 pm	pm
Covalent Radius	136 pm	pm
Van der Waals Radius	166 pm	pm
CRYSTAL STRUCTURE		
Structure	Face-centered Cubic	
Lattice Constant	407.82, 407.82, 407.82 pm	
Space Group	Fm_ 3m	#225
ISOTOPES & NUCLEAR		
Stability	Stable	
Stable Isotopes	197Au	
Isotopic Abundance	197Au100%	
Known Isotopes	169Au ■ 205Au (37 total)	
Neutron Cross Sect.	98.7	barns
ELEMENTAL ABUNDANCES		
Universe	6×10 ⁻⁸ %	%
Earth's Crust	3.1×10 ⁻⁷ %	%
Oceans	5×10 ⁻⁹ %	%
Human Body	0.00001%	%
HEALTH & SAFETY		
RTECS Number	MD5070000	
NFPA Health/Fire/Rx	0 / 0 / 0	