

OVERVIEW		
Full Name	Iridium (None)	
Symbol	Ir	
Atomic Number	77	
Series	Transition Metal	
Block / Group / Period	d-block Group 9 Period 6	
Electron Config.	[Xe]6s24f145d7	
Phase at STP	Solid	
Colour	Silver	
Discovery	1803 in France and The United Ki...	
THERMAL PROPERTIES		
Melting Point	2466 °C	°C
Melting Point (abs.)	2739 K	K
Boiling Point	4428 °C	°C
Boiling Point (abs.)	4701 K	K
Heat of Fusion	26 kJ/mol	kJ/mol
Heat of Vaporization	560 kJ/mol	kJ/mol
Specific Heat (solid)	131 J/(kg K)	J/(kg·K)
Thermal Conductivity	150 W/(m K)	W/(m·K)
Thermal Expansion	6.4×10 ⁻⁶ K ⁻¹	K ⁻¹
MECHANICAL PROPERTIES		
Density (solid, STP)	22.56 g/cm ³	g/cm ³
Density (liquid, MP)	19 g/cm ³	g/cm ³
Young's Modulus	528 GPa	GPa
Shear Modulus	210 GPa	GPa
Bulk Modulus	320 GPa	GPa
Poisson's Ratio	0.26	
Speed of Sound	4825 m/s	m/s
Mohs Hardness	6.5	
Vickers Hardness	1760 MPa	MPa
Brinell Hardness	1670 MPa	MPa
ELECTRICAL PROPERTIES		
Type	Conductor	
Conductivity	2.1×10 ⁷ S/m	S/m
Resistivity	4.6999999999998×10 ⁻⁸ mΩ/m	Ω·m
Superconducting Pt.	0.11	K
MAGNETIC PROPERTIES		
Type	Paramagnetic	
Vol. Susceptibility	0.0000377	
Mass Susceptibility	1.67×10 ⁻⁹ m ³ /Kg	m ³ /kg
REACTIVITY		
Valence	6	
Electronegativity	2.2	(Pauling)
Electron Affinity	151 kJ/mol	kJ/mol
Ionization Energies	880, 1600	kJ/mol
ATOMIC DIMENSIONS		
Atomic Radius	180 pm	pm
Covalent Radius	141 pm	pm
CRYSTAL STRUCTURE		
Structure	Face-centered Cubic	
Lattice Constant	383.9, 383.9, 383.9 pm	
Space Group	Fm_3m	#225
ISOTOPES & NUCLEAR		
Stability	Stable	
Stable Isotopes	191Ir, 193Ir	
Isotopic Abundance	191Ir37.3%193Ir62.7%	
Known Isotopes	164Ir ■ 199Ir (36 total)	
Neutron Cross Sect.	425	barns
ELEMENTAL ABUNDANCES		
Universe	2×10 ⁻⁷ %	%
Earth's Crust	4×10 ⁻⁸ %	%
HEALTH & SAFETY		
DOT Hazard Class	4.1	
NFPA Health/Fire/Rx	0 / 0 / 0	