Antimony Disk Single Crystal

Antimony disk single crystal is a monocrystalline semimetal with anisotropic electrical and thermal properties for infrared calibration, semiconductor research, and thermoelectric studies. **SKU:** 1000033276-group
Product Code: SB00-SC-000131

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	51
Crystal structure	Rhombohedral
Electronic structure	Kr $4d^{1}$? $5s^{2}$ $5p^{3}$
Valences shown	-3,0,3,5
Atomic weight(amu)	121.75
Thermal neutron absorption cross-section(Barns)	5
Photo-electric work function(eV)	4.1
Natural isotope distribution(Mass No./%)	121/ 57.3
Natural isotope distribution(Mass No./%)	123/ 42.7
Atomic radius - Goldschmidt(nm)	0.161
Ionisation potential(No./eV)	1/ 8.64
Ionisation potential(No./eV)	3/ 25.3
Ionisation potential(No./eV)	2/ 16.53
Ionisation potential(No./eV)	5/ 56.0
Ionisation potential(No./eV)	4/ 44.2
Ionisation potential(No./eV)	6/ 108

Mechanical Properties

Element	Value
Hardness - Mohs	3-3.3
Material condition	Polycrystalline
Poisson's ratio	0.25-0.33
Bulk modulus(GPa)	42
Tensile modulus(GPa)	54.7

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	40.1@20°C
Temperature coefficient(K?¹)	0.0051@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	4.89

Physical Properties

Element	Value
Boiling point(C)	1750
Density(gcm?³)	6.68@20

Thermal Properties

Element	Value
Melting point(C)	630.7
Latent heat of evaporation(J g?¹)	1370
Latent heat of fusion(J g?¹)	163
Specific heat(J K?¹ kg?¹)	205@25°C
Thermal conductivity(W m?¹ K?¹)	24.4@0-100°C
Coefficient of thermal expansion(x10?? K?¹)	9@0-100°C