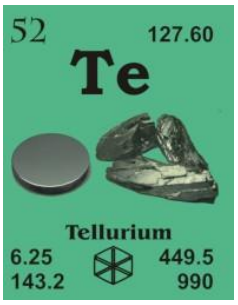
Tellurium $_{52}Te^{127.60}$

Tellurium was discovered in1783 by Baron Franz Joseph Müller von Reichenstein at Sibiu, Romania.

[Latin, tellus = earth]
French: tellure
German: tellur
Italian: tellurio
Spanish: teluro



Atomic number	52
Density in g/cm³	6.25
Atomic radius in pm	123
Atomic weight	127.60
Melting point in °C	449.5
Boiling point in °C	990

Description: Tellurium is a silvery-white, metallic-looking in bulk, but is usually obtained as a dark grey powder. It is a semi-metal. Tellurium burns in air or oxygen, is unaffected by water or HCl, but dissolves in HNO3. It is used in alloys to improve machinability, in electronics, and in catalysts.

TELLURIUM SINGLE CRYSTAL PROPERTIES

State:	Single crystal
Crystal structure:	Hexagonal
Production method:	Czochralski
Standard size:	diameter 10mm thickness 1-2mm
Orientation:	(0001), (1100) and (11-20)
Orientation accuracy:	<2°, <1°, <0.4° or <0.25°
Polishing:	as cut, one or two sides polished
Roughness of surface:	<0.03µm
Purity:	99.999%
Typical analysis (ppm):	C 3 H < 1 O 9 N < 5 Cu 1.60 Fe 1.80 Ni < 1 Pb 0.30 Si 0.30 Ga, Hf and Ta are below the detection limit
Density:	6.24 g/cm3
Melting point:	449.55 °C / 722.7 °K
Boiling point:	989.85 °C / 1263.0 °K
Molar volume:	20.45 cm3
Thermal conductivity:	2.35 [300 K] Wm-1K-1

Coefficient of linear thermal expansion:	16.75 x 10-6 K-1
Electrical resistivity:	4.36x 10-3 [298 K] Wm
Mass magnetic susceptibility:	-3.9 x 10-9(s) kg-1m3
Young's modulus:	47.1 GPa
Rigidity modulus:	16.7 GPa
Bulk modulus:	n.a. GPa
Poisson's ratio:	0.16 - 0.3
Radii:	Te3+ 56; Te4+ 97; Te2- 211; atomic 143; covalent 1
Electronegativity:	2.1 (Pauling); 2.01 (Allred); 5.49 eV (absolute)
Effective nuclear charge:	6.95 (Slater); 10.81 (Clementi); 13.51 (Froese-Fischer)
Number of Isotopes (incl. nuclear isomers):	39
Issotope mass range:	108 -> 137
Crystal structure, (cell dimentions / pm), space group	Hexagonal
X-ray diffraction: mass absorption coefficients:	CuKα 282 (μ/r) / cm2g-1 MoKα 35.0 (μ/r) / cm2g-1
Neutron scattering length:	0.580 b/10-12 cm
Thermal neutron capture cross-section:	4.7 sa / barns