

84 Po

Polonium

Density = 9.4g/cm^3

Melting point = 254°C

Boiling point = 962°C

Electronegativity = 2.0

Ionization energy = 812.1 kJ/mol

Electron shell: $[\text{Xe}] 4f^{14} 5d^{10} 6s^2 6p^4$

Oxidation states: +2

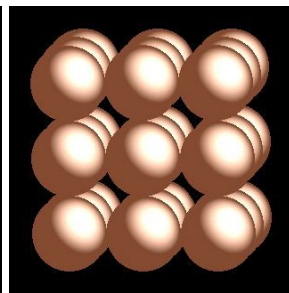
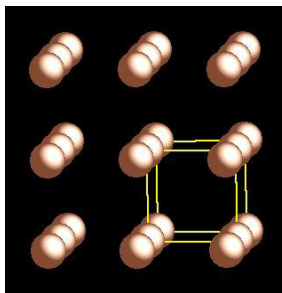
Abundance on Earth: Rare

Isotopes: ^{208}Po , ^{209}Po , ^{210}Po , ^{214}Po , ^{218}Po

Cost: about \$3200 per microcurie



Crystal structure: Monoclinic;
space group: Pm-3m



- Polonium was discovered in 1889, by Pierre and Marie Curie of Poland.
- Polonium is a very rare natural element, also called Radium F.
- Properties: simple cubic, blue glow, low melting, fairly volatile metal, readily dissolved in dilute acids, but only slightly soluble in alkali.
- Availability: Uranium ores contain about 100 micrograms per ton.
- Uses: Polonium has attracted attention for uses as lightweight heat source for thermoelectric power in space satellites. It has been used on brushes for removing dust from photographic films.
- Environmental effects: Polonium occurs naturally, but it has become much more available for entering into water, food, living cells and tissues since the mining boom shortly after World War II.
- Cost: It cost about \$3200 per microcurie, which is one millionth of a curie. The curie is equal to 37 billion (3.7×10^{10}) disintegrations per second, which is approximately the activity of 1 gram of radium.