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OSMIUM

Os

Os



Osmium

Etymology: Greek word 'osme' meaning pungent smell of its tetroxide.

Did you know?

Osmium is the densest element in the world with density 22.59 g/cm³.

$$\rho = \frac{m}{V}$$

m – mass of substance

V – Volume

Thus, SI unit is kg/m³

and C.G.S unit is g/cm³

density

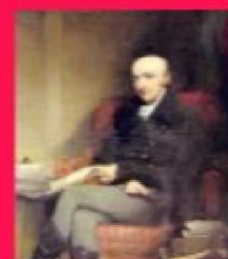
$$\rho = \frac{m}{V}$$

mass

volume

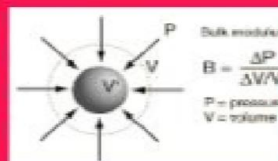
Discovery:

Osmium was discovered in 1803 by Smithson Tennant and William Hyde Wollaston in London, England. It was intertwined with that of platinum and other metals of the platinum group.



Physical Properties:

Colour of blue-gray tint, hard, brittle, lustrous even at high temperatures, low compressibility, high bulk modulus, low vapour pressure and very high melting point.



Chemical Properties:

Oxidation states ranging from –2 to +8. Most stable oxidation states of osmium are +2, +4, +6 and +8. Generally, the lower oxidation states of osmium stabilized by ligands that are good σ -donors (such as amines) and π -acceptors (heterocycles containing nitrogen). The higher oxidation states are stabilized by strong σ - and π -donors, such as O²⁻ and N³⁻.



Did you know?

Osmium is one of the rarest elements found in earth. It is because of their low abundance.

