Holmium - Ho

Chemical properties of holmium - Health effects of holmium - Environmental effects of holmium

Atomic number	67
Atomic mass	164.9 $g.mol^{-1}$
Electronegativity according to Pauling	1.2
Density	8.8 $g.cm^{-3}$ at 20°C
Melting point	1474 °C
Boiling point	2695 °C
Vanderwaals radius	unknown
Ionic radius	unknown
Isotopes	4
Electronic shell	[Xe] $4f^{11}$ $6s^{2}$
Energy of first ionisation	580 $kJ.mol^{-1}$
Energy of second ionisation	1136.6 $kJ.mol^{-1}$
Standard potential	- 2.32 V
Discovered	J.L. Soret in 1878

Holmium

Holmium is a melleable, soft, lustrous metal with a silvery colour, belonging to the lantanides series of the periodic chart of elements. It is slowly attacked by oxygen and water and dissolves in acids. It is stable in dry air at room temperature.

Applications

Holmium alloys are used as a magnetic flux concentrator to create the strongest artificially-generated magnetic fields. It is also used in nuclear reactors for nuclear control rods. Holmium oxide is used as yellow gas colouring.

Holmium in the environment

Holmium is one of the rarer of the rare-earth elements but is, nevertheless, 20 times more abundant than silver. Like all other rare earths, holmium is not naturally found as free element. It is found in minerals such as monazite and bastanasite, even if it is just a minor components of such ores.
World production of holmium is around 10 tonnes per year and main mining areas are China, USA, Brazil, India, Sri Lanka and Australia. Reserves of holmium are hestimated to be around 400.000 tonnes.

Health effects of holmium

Holmium has no biological role and it is considered one of the least abundant elements present in human body. It has been noted that holmium stimulates metabolism, even if it appears to have a low acute toxic rating.

Environmental effects of holmium

Holmium poses no environmental threat to plants and animals.