

Seaborgium

Sg

General Information

Discovery

Seaborgium was discovered in 1974 by American scientists led by Albert Ghiorso at both Berkeley, California and Livermore National Labs, USA.

Appearance

Unknown, but probably metallic grey in appearance.

Source

A transuranium element created by bombarding ^{249}Cf with ^{18}O nuclei.

Uses

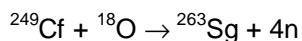
Unknown.

Biological Role

None.

General Information

A synthetic element created via nuclear bombardment, few atoms have ever been made and the properties of seaborgium are very poorly understood. It is a radioactive metal and is of research interest only. Interestingly, its chemistry resembles that of tungsten.



Physical Information

Atomic Number	106
Relative Atomic Mass ($^{12}\text{C}=12.000$)	263.12
Melting Point/K	Not available
Boiling Point/K	Not available
Density/kg m ⁻³	35,000 (estimated)
Ground State Electron Configuration	[Rn]5f ¹⁴ 6d ⁴ 7s ²
Electron Affinity (M-M ⁻)/kJ mol ⁻¹	Not available

Key Isotopes

Nuclide	²⁵⁹ Sg	²⁶⁰ Sg	²⁶¹ Sg	²⁶³ Sg	²⁶⁵ Sg	²⁶⁶ Sg
Atomic mass	259.11		261.11	263.11		
Natural abundance	0%	0%	0%	0%	0%	0%
Half-life	0.5 secs	4x10 ⁻³ secs	0.3 secs	0.9 secs	2.8 secs	27.3 secs

Ionisation Energies/kJ mol⁻¹

M - M ⁺	730 (est)
M ⁺ - M ²⁺	
M ²⁺ - M ³⁺	
M ³⁺ - M ⁴⁺	
M ⁴⁺ - M ⁵⁺	
M ⁵⁺ - M ⁶⁺	
M ⁶⁺ - M ⁷⁺	
M ⁷⁺ - M ⁸⁺	
M ⁸⁺ - M ⁹⁺	
M ⁹⁺ - M ¹⁰⁺	

Other Information

Enthalpy of Fusion/kJ mol⁻¹ Not available

Enthalpy of Vaporisation/kJ mol⁻¹ Not available

Oxidation States

Sg⁺⁶ has been predicted as the most stable.