

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

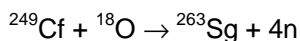
Unknown.

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^{VI} has been predicted as the most stable.

Covalent Bonds/kJ mol⁻¹

Not available