

Fermium

Fm

General Information

Discovery

Fermium was discovered by G. R. Choppin, S.G. Thompson, A. Ghiorso and B.G. Harvey in 1952, in the debris of the thermonuclear explosion at Eniwetok in the Pacific. This involved the examination of tons of radioactive coral from the blast area.

Appearance

Fermium has a very short life-span, so scientists doubt that enough of the element will ever be obtained to be weighed or seen.

Source

Fermium can be obtained in microgram quantities from the neutron bombardment of plutonium.

Uses

Fermium has no uses outside research.

Biological Role

Fermium has no known biological role. It is toxic due to its radioactivity.

Physical Information

Atomic Number	100
Relative Atomic Mass ($^{12}\text{C}=12.000$)	257 (radioactive)
Melting Point/K	Not available
Boiling Point/K	Not available
Density/kg m ⁻³	Not available
Ground State Electron Configuration	[Rn]5f ¹² 7s ²
Electron Affinity (M-M ⁻)/kJ mol ⁻¹	Not available

Key Isotopes

Nuclide	²⁵⁴ Fm	²⁵⁵ Fm	²⁵⁷ Fm
Atomic mass			
Natural abundance	0%	0%	0%
Half-life	3.24 h	20 h	80 days

Ionisation Energies/kJ mol⁻¹

M - M ⁺	627
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

Fm⁺², Fm⁺³