

Isotopes of Californium

Isotope	Atomic Mass	Half-life	Mode of Decay	Nuclear Spin	Nuclear Magnetic Moment
Cf-248	248.07218	334 days	α to Cm-244; SF	0	No data available
Cf-249	249.07485	351 years	α to Cm-245; SF	9/2	No data available
Cf-250	250.07640	13.10 years	α to Cm-246; SF	0	No data available
Cf-251	251.079580	898 years	α to Cm-247	1/2	No data available
Cf-252	252.08162	2.64 years	α to Cm-248; SF	0	No data available
Cf-253	253.08513	17.80 days	α to Cm-249; β^- to Es-253	7/2	No data available
Cf-254	254.08732	60.50 days	α to Cm-250; SF	0	No data available
Cf-255	255.0910	1.40 hours	β^- to Es-255	No data available	No data available



Californium is a radioactive rare earth metal named after the state of California and the University of California at Berkeley, USA, where it was discovered in 1950 by Glenn T. Seaborg, Stanley G. Thompson, Albert Ghiorso and Kenneth Street.

Two crystalline forms exist for californium under normal pressure: one above 900 °C and one below 900 °C. A third form exists at high pressure. Californium slowly tarnishes in air at room temperature. Compounds of californium are dominated by a chemical form of the element, designated californium (III), that can participate in three chemical bonds.

Californium has several practical applications. It can be used to help start up nuclear reactors; as a source of neutrons when studying materials with neutron diffraction and neutron spectroscopy; and in nuclear synthesis of higher-mass elements.

The isotope Californium-252 is a strong neutron emitter: one microgram emits 170 million neutrons per minute, making it a biological hazard.

Properties of Californium

Name	Californium
Symbol	Cf
Atomic number	98
Atomic weight	[251]
Standard state	Solid at 298 °K
CAS Registry ID	7440-71-3
Group in periodic table	N/A
Group name	Actinoid
Period in periodic table	7 (Actinoid)
Block in periodic table	f-block
Color	Unknown, but probably metallic and silvery- white or grey in appearance
Classification	Metallic
Melting point	1173 °K [or 900 °C or 1652 °F]
Boiling point	No data available
Density of solid	15.10 g/cm ³
Electron configuration	[Rn]5f ¹⁰ 7s ²