

Californium Encyclopedia Article

Californium

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Californium

Californium is a transuranium elements, one of the elements found beyond **uranium** in Row 7 of the **periodic table**. It has an **atomic number** of 98, and atomic **mass** of 251.0796, and a chemical symbol of Cf.

Properties

All isotopes of californium are radioactive. The most stable **isotope**, californium-251, has a half life of 898 years. The element exists in such small amounts that very little is known about its chemical and physical properties. Its melting point has been estimated to be about 1,650°F (900°C).

Occurrence and Extraction

Californium does not occur naturally in the Earth's crust. It is prepared artificially by bombarding **curium** (atomic number 96) with alpha particles in a particle accelerator. By means of this reaction, microgram-size amounts of the element can be prepared.

Discovery and Naming

Californium was discovered in 1950 by a research team at the University of California at Berkeley (UCB). The team was made up of Glenn Seaborg, **Albert Ghiorso**, Kenneth Street, Jr., and Stanley G. Thompson (1912-). The discoverers chose to name the new element after the state of California in which they had done their research.

Uses

Californium has very few important applications. One of its uses has been in non-destructive testing, such as inspections of airline baggage. The isotope californium-252 has also found some use in determining the amount of moisture in soil, information that is very important to road builders and construction companies. All isotopes of californium destined for commercial use are now produced at the High Flux Isotope Radiator at the Oak Ridge National Laboratory in Tennessee.