MARINELLE BASSON

CALIFORNIUM

Element Symbol: Cf
Atomic Number: 98

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Atomic number 98 and the sixth transuranium element to be discovered was surprisingly named after the State and University of California, Berkeley where it was discovered. Typically of California, the normal naming convention was ignored. Curiously Curium-242 was used as the bombardee with alpha particles to form Cf-245 and a single neutron.

Californium has two crystalline forms: a double-hexagonal close-packed α form that exists below 900 °C with a density of 15.10 g/cm^3 and a face-centered cubic β form with a density of 8.74 g/cm^3.

Cf-252 is the most stable of the isotopes with Cf-249, 250, 251 all having half lives measured in years and also the only ones that can be produced in weighable quantities. Californium exhibits valences 2, 3 & 4 but only Cf-249 isotope can be used for chemical study due to the high neutron emission of the other isotopes.

Californium (III) cation the 3 valence state is the only form stable in aqueous solutions and it possibly inspired the title of the song by the Red Hot Chili Peppers (Californi ..

cation).

Provided by the element sponsor Chris Cowie

ARTISTS DESCRIPTION

Californium is a synthetic chemical element; it is too unstable to occur naturally on Earth, and has to be "man made". The element was named after the State and University of California, Berkley where it was first made in 1950 by bombarding curium with helium ions in a cyclotron. The image features dials, switches and gauges that might be found on an old cyclotron, and refers to the fact that the element – and its name which does not follow the normal naming conventions – were "made in the USA".

The print is from etched and cut lino.

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