

Californium (Cf)

Element 98 | Actinide | Period 7 | f-block

Atomic number	98
Atomic mass	[251]
Electron configuration	[Rn] 5f10 7s2
Reference isotope	252Cf
Density	15.1 g/cm3
Melting point	1173 K
Boiling point	Unknown
Structure	Double-hexagonal close-packed (DHCP) teaching reference

Big idea

Californium search interest often centers on Cf-252. The guide keeps isotope-specific neutron-source behavior separate from the chemical identity of element 98.

Five things to remember

- Atomic number 98 means every californium nucleus has 98 protons.
- The ground-state/reference electron configuration is [Rn] 5f10 7s2.
- The representative teaching isotope is 252Cf.
- Californium search interest often centers on Cf-252. The guide keeps isotope-specific neutron-source behavior separate from the chemical identity of element 98.
- Material structure status: Double-hexagonal close-packed (DHCP) teaching reference.

Structure, evidence and real-world context

The viewer represents the reviewed Double-hexagonal close-packed (DHCP) teaching reference material reference for elemental Californium. It is a teaching model, not a refined crystallographic coordinate set or a model of every compound.

Evidence boundary

Atomic identity and source-reviewed reference values are separated from predictions. Search demand shapes headings and FAQs but never overrides scientific evidence; unknown bulk structure/density/phase values remain visibly unknown.

Where is it used?

Neutron-source applications using specific isotopes such as Cf-252 - Research-only context; no operational production or handling guidance.

Scientific research - Research-only context; no operational production or handling guidance.

Specialized neutron activation and inspection contexts under regulated controls - Research-only context; no operational production or handling guidance.

Discovery and history

1950 - Stanley Thompson, Kenneth Street Jr., Albert Ghiorso and Glenn Seaborg produced californium at Berkeley.

Naming / context - The element name and discovery story are part of the historical record; search-led questions are answered without turning history into scientific evidence for bulk properties.

Today - Current use is described at the level supported by the element's availability and evidence, with research-only elements kept research-only.

Safety / interpretation

This page is educational and non-operational. It provides no radioactive-material production, separation, source-preparation, handling or access instructions.

Search-led questions and review

The questions below reflect genuine learner/search intent. Answers remain source- and evidence-led.

What is californium?

Californium is chemical element 98, symbol Cf, classified here as actinide.

What is the atomic number of californium?

The atomic number is 98, meaning every californium nucleus has 98 protons.

What is the symbol for californium?

The chemical symbol is Cf.

What is californium used for?

Specific californium isotopes, especially Cf-252, are intense neutron emitters used in specialized regulated neutron-source and research applications.

What is californium-252?

Cf-252 is a radioactive isotope and strong neutron source; it is not the same thing as the relative atomic mass shown for the element.

Where is californium found?

Californium does not occur in useful natural deposits. It is produced artificially in nuclear facilities.

Quick review

What is Californium's atomic number?

Answer: 98

Atomic number 98 defines Californium by its proton count.

Which statement best describes the material evidence for Californium?

Answer: Double-hexagonal close-packed (DHCP) teaching reference

The Structure view follows measured/reviewed evidence; unknown bulk structures remain unknown.

What is the safest rule for Californium uses?

Answer: Distinguish the element from its isotopes, compounds and engineered materials

Elemental, isotope-specific and compound properties must not be conflated.

Sources

Royal Society of Chemistry - Californium: <https://periodic-table.rsc.org/element/98/>

NIST - Atomic Weights and Isotopic Compositions: https://physics.nist.gov/cgi-bin/Compositions/stand_alone.pl

IUPAC - Periodic Table of Elements: <https://iupac.org/what-we-do/periodic-table-of-elements/>