

Fermium (Fm)

Element 100 | Actinide | Period 7 | f-block

Atomic number	100
Atomic mass	[257]
Electron configuration	[Rn] 5f ¹² 7s ²
Reference isotope	257Fm
Density	Unknown
Melting point	1800 K (reported reference)
Boiling point	Unknown
Structure	Bulk crystal structure not experimentally established

Big idea

Fermium is a research-only actinide whose nuclear evidence is far stronger than its macroscopic material evidence. Unknown bulk properties stay unknown.

Five things to remember

- Atomic number 100 means every fermium nucleus has 100 protons.
- The ground-state/reference electron configuration is [Rn] 5f¹² 7s².
- The representative teaching isotope is 257Fm.
- Fermium is a research-only actinide whose nuclear evidence is far stronger than its macroscopic material evidence. Unknown bulk properties stay unknown.
- Material structure status: Bulk crystal structure not experimentally established.

Structure, evidence and real-world context

No defensible macroscopic crystal lattice is displayed for Fermium. Nuclear/atomic evidence and theory are kept separate from unmeasured bulk material properties.

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?

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

Nuclear-structure and heavy-element studies - Research-only context; no operational production or handling guidance.

Discovery and history

1952/1953 - Fermium was identified in debris from the first thermonuclear explosion; the discovery was initially classified.

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 fermium?

Fermium is chemical element 100, symbol Fm, classified here as actinide.

What is the atomic number of fermium?

The atomic number is 100, meaning every fermium nucleus has 100 protons.

What is the symbol for fermium?

The chemical symbol is Fm.

What is fermium used for?

Fermium has no use outside scientific research.

Who discovered fermium?

It was identified by a team including Albert Ghiorso in material from the 1952 thermonuclear test; the finding became public later.

What does fermium look like?

Only extremely small quantities have been produced, so this guide does not claim a measured macroscopic crystal lattice or ordinary bulk appearance.

Quick review

What is Fermium's atomic number?

Answer: 100

Atomic number 100 defines Fermium by its proton count.

Which statement best describes the material evidence for Fermium?

Answer: Bulk crystal structure not experimentally established

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

What is the safest rule for Fermium 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 - Fermium: <https://periodic-table.rsc.org/element/100/>

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/>