

Nobelium (No)

Element 102 | Actinide | Period 7 | f-block

Atomic number	102
Atomic mass	[259]
Electron configuration	[Rn] 5f ¹⁴ 7s ²
Reference isotope	259No
Density	Unknown
Melting point	1100 K (reported reference)
Boiling point	Unknown
Structure	Bulk crystal structure not experimentally established

Big idea

Nobelium is notable for accessible No²⁺ chemistry compared with neighboring actinides, but its bulk material properties remain inaccessible because only tiny atom counts are produced.

Five things to remember

- Atomic number 102 means every nobelium nucleus has 102 protons.
- The ground-state/reference electron configuration is [Rn] 5f¹⁴ 7s².
- The representative teaching isotope is 259No.
- Nobelium is notable for accessible No²⁺ chemistry compared with neighboring actinides, but its bulk material properties remain inaccessible because only tiny atom counts are produced.
- Material structure status: Bulk crystal structure not experimentally established.

Structure, evidence and real-world context

No defensible macroscopic crystal lattice is displayed for Nobelium. 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.

Heavy-element and actinide chemistry studies - Research-only context; no operational production or handling guidance.

Discovery and history

1960s - Discovery claims were disputed; IUPAC ultimately credited work at the Joint Institute for Nuclear Research in Dubna.

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 the atomic number of nobelium?

The atomic number is 102, meaning every nobelium nucleus has 102 protons.

What is the symbol for nobelium?

The chemical symbol is No.

What is nobelium?

Nobelium is element 102, symbol No, a synthetic radioactive actinide.

What is nobelium used for?

Nobelium has no use outside scientific research.

Who was nobelium named after?

It was named after Alfred Nobel.

What does nobelium look like?

Only a few atoms have been made; no measured macroscopic bulk crystal structure is presented.

Quick review

What is Nobelium's atomic number?

Answer: 102

Atomic number 102 defines Nobelium by its proton count.

Which statement best describes the material evidence for Nobelium?

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 Nobelium 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 - Nobelium: <https://periodic-table.rsc.org/element/102/>

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/>