

Iridium (Ir)

Element 77 | Transition metal | Period 6 | d-block

Atomic number	77
Atomic mass	192.217
Electron configuration	[Xe] 4f14 5d7 6s2
Reference isotope	193Ir
Density	22.5622 g/cm3
Melting point	2719 K
Boiling point	4701 K
Structure	Face-centred cubic (FCC)

Big idea

Iridium is exceptionally dense and corrosion resistant. Search results can also refer to iridium compounds, electrodes and game items; this page stays focused on the chemical element and its real materials context.

Five things to remember

- Atomic number 77 means every iridium nucleus has 77 protons.
- The ground-state/reference electron configuration is [Xe] 4f14 5d7 6s2.
- The representative teaching isotope is 193Ir.
- Iridium is exceptionally dense and corrosion resistant. Search results can also refer to iridium compounds, electrodes and game items; this page stays focused on the chemical element and its real materials context.
- Material structure status: Face-centred cubic (FCC).

Structure, evidence and real-world context

The viewer represents the reviewed Face-centred cubic (FCC) material reference for elemental Iridium. 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?

High-temperature crucibles and specialized alloys - Element-specific use context; compounds/alloys are distinguished from pure metal.

Spark-plug and electrical-contact materials - Element-specific use context; compounds/alloys are distinguished from pure metal.

Iridium compounds in selected catalysts and electrochemistry - Element-specific use context; compounds/alloys are distinguished from pure metal.

Discovery and history

1803 - Smithson Tennant identified iridium in platinum-ore residues in London.

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

Use material-specific safety information for real substances; element, compound and alloy hazards can differ.

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 iridium?

The atomic number is 77, meaning every iridium nucleus has 77 protons.

What is the symbol for iridium?

The chemical symbol is Ir.

What is iridium?

Iridium is element 77, a dense and highly corrosion-resistant platinum-group transition metal.

What is iridium used for?

Iridium is used in specialized high-temperature and wear-resistant components, electrodes and selected catalytic systems.

Is iridium a metal?

Yes. Elemental iridium is a hard silvery transition metal.

Quick review

What is Iridium's atomic number?

Answer: 77

Atomic number 77 defines Iridium by its proton count.

Which statement best describes the material evidence for Iridium?

Answer: Face-centred cubic (FCC)

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

What is the safest rule for Iridium 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 - Iridium: <https://periodic-table.rsc.org/element/77/>

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/>