

116  
**Lv**  
Livermorium  
[293]

**Key Properties**

Atomic Mass	[293]
Category	unknown-properties
State at 20°C	solid
Melting Point	null
Boiling Point	null
Density	12.9*
Electron Config	[Rn] 5f146d107s27p4
Electronegativity	null
Year Discovered	2000
Discovered By	JINR & Lawrence Livermore National Laboratory (LLNL)

**Did You Know?**

- 1 It is named in honor of the Lawrence Livermore National Laboratory (LLNL) in Livermore, California, which collaborated with the Russian team at JINR on its discovery.
- 2 It is a member of Group 16, below polonium, and is predicted to be a solid metal at room temperature.
- 3 The first atoms of livermorium were detected by observing the alpha decay of moscovium.
- 4 Its most stable known isotope has a half-life of only about 53 milliseconds.
- 5 The element was first synthesized in the year 2000.

**APPEARANCE**

Livermorium is a synthetic, highly radioactive element.

**SUPERHERO PERSONA**

*"The Livermore Lancer, a hero representing the American side of the collaboration that discovered it."*

**EVERYDAY CONNECTION**

Livermorium has no everyday connection, used only in research.

**POP CULTURE**

Livermorium's properties are largely unknown, but it's in the same group as oxygen and sulfur.

**Livermorium: The Man-Made Superheavy Element**

Livermorium (Lv) is a synthetic, highly radioactive metal with atomic number 116. It has no natural occurrence and exists only for a fraction of a second at a time — its most stable isotope has a half-life of just 61 milliseconds. Because of its fleeting existence, livermorium has no practical uses and is studied purely for research.

Its name honors the Lawrence Livermore National Laboratory in California, which collaborated in the element's discovery.

**How Is Livermorium Made?**

Livermorium is a man-made element, created in particle accelerators through a process known as nuclear fusion:

In 2000, scientists at the Joint Institute for Nuclear Research (JINR) in Dubna, Russia, bombarded atoms of curium-248 with calcium-48 ions.

After weeks of experiments, a few atoms of livermorium were detected, confirming the element's existence.

This process required extraordinary precision, as only a handful of atoms were ever produced.

**Biological Role and Uses**

Because it is so unstable, livermorium has no commercial applications and no biological role. It is considered toxic due to its intense radioactivity.

Its sole value lies in scientific research, particularly in studying the properties of superheavy elements and testing theories about the "island of stability," a region of the periodic table where certain heavy elements might have longer half-lives.

**History of Livermorium**

The path to confirming livermorium's existence was not without controversy:

1999 – A False Start: A team at the Lawrence Berkeley National Laboratory in California announced they had discovered element 116, but the claim was later withdrawn after it was revealed the data had been fabricated.

2000 – Verified Discovery: A collaborative team at JINR (Russia) and LLNL (USA) successfully synthesized livermorium, providing solid evidence.

2012 – Official Recognition: The element was officially named livermorium (Lv) by the International Union of Pure and Applied Chemistry (IUPAC).