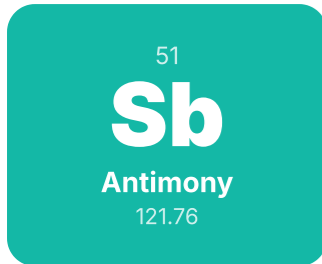


Antimony (Sb)

Element 51 — Complete Summary
theperiodictable.io



Key Properties

Atomic Mass	121.76
Category	Metalloids
State at 20°C	solid
Melting Point	630.628°C
Boiling Point	1587°C
Density	6.697
Electron Config	[Kr] 4d10s25p3
Electronegativity	2.05
Year Discovered	c. 1450
Discovered By	Tholden

Did You Know?

- 1 Antimony isn't a true metal or a nonmetal; it's a *metalloid*! This means it has properties of both, making it super versatile for high-tech applications.
- 2 For thousands of years, people in ancient Egypt and the Middle East used antimony sulfide as kohl, the dark eye makeup. Talk about an original 'smoky eye'!
- 3 One of Antimony's most important jobs is strengthening alloys. Add a little antimony to lead, and boom – you get a much harder, more durable metal perfect for battery grids and bullets.
- 4 Antimony compounds are star players in fire retardants! They release non-flammable gases when heated, helping to smother flames and save lives in everything from plastics to textiles.
- 5 Because it's a metalloid, Antimony is awesome in semiconductors, the tiny brains of all our electronics. It helps control electrical conductivity with precision.
- 6 While incredibly useful, Antimony can be toxic in certain forms and doses. That's why its use in modern cosmetics is heavily regulated or replaced – no licking antique eyeliner!
- 7 Historically, Antimony compounds were controversially used in medicines, sometimes with disastrous results due to their toxicity. It was truly a chemical double-edged sword!
- 8 Pure antimony can form really cool, distinctive crystal structures that are often rhombohedral, looking like tiny, complex geometric puzzles.
- 9 When alloyed with lead, Antimony doesn't just strengthen it; it also prevents the lead from corroding as easily, making those car batteries last way longer. It's the ultimate stable sidekick!
- 10 Antimony isn't super abundant in the Earth's crust, making it a valuable element, often found alongside other metals like silver and lead in various minerals.
- 11 Its chemical symbol, Sb, comes from its ancient Latin name 'stibium,' which dates back centuries before the name 'antimony' became common!

APPEARANCE

Silvery-gray, super shiny, and oh-so-brittle – looks like metal, acts like something in between!

SUPERHERO PERSONA

"Meet **Antimony**, the silent guardian of materials! This metalloid marvel makes allies tougher, electronics smarter, and even helps keep things safe from fire."

EVERYDAY CONNECTION

Think car batteries, fire-resistant fabrics, or the tiny chips in your phone – Antimony is secretly boosting their power and safety!

POP CULTURE

Ancient Egyptians used antimony compounds for their striking kohl eyeliner, giving it a mysterious, Cleopatra-esque flair that definitely stood the test of time!

Antimony (Sb): The Brittle, Ancient Semi-Metal

Antimony is a silvery, hard, and brittle semi-metal that has been known since ancient times. Its name comes from the Greek words anti and monos, which may mean "not alone"—a reference to how it's usually found combined with other elements. Civilizations have used antimony for over 5,000 years, from cosmetics to metallurgy.

Why Is Antimony Useful?

Antimony is prized for its ability to harden metals and for its role in modern industry:

Alloys: Added to lead to make it harder and stronger. Lead-antimony alloys are essential for car batteries, bullets, and the old printing press "type metal."

Electronics: Used as a semiconductor in devices like infrared detectors and diodes.

Flame Retardants: Antimony compounds are added to fabrics, paints, and plastics to make them resistant to fire.

Historical Uses: In ancient times, the mineral stibnite (antimony sulfide) was ground into a fine powder and used as kohl, a black pigment for eye makeup.

Natural Abundance & History

Antimony is not very common but is found in over 100 minerals, most often as stibnite (Sb₂S₃). It can also occur in small amounts in pure form. Today, about 88% of the world's antimony is produced in China.

5,000 years ago: A vase made of antimony was crafted in Mesopotamia (modern Iraq).

Ancient Egypt & Babylon: Antimony sulfide was used as a pigment and glaze for decorative objects.

Medieval Europe: Doctors even prescribed antimony “pills” as laxatives—and in some cases, the same pill was reused multiple times!

Biological Role

Antimony has no biological role. Many of its compounds are toxic and must be handled with care.