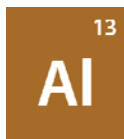


Aluminum (Al)

Isotope	Z(p)	N(n)	Atomic Mass	Natural Abundance	Nuclear Spin
Al-27	13	14	26.9815384	100.00%	5/2+



Hans Christian Oersted first isolated aluminum (also known as "aluminium") in Denmark in 1825. Its name originates with the Latin word *alumen*, meaning "alum." Aluminum is the third most abundant element in the earth's crust, accounting for 8.13% by weight. It is a silvery-white malleable metal with a cubic crystal structure; it is insoluble in water and soluble in acids and alkalis.

Ancient Greeks and Romans used alum in medicine (as an astringent) and in the dyeing process. Today, aluminum alloys have numerous applications. They are used extensively in electrical transmission lines, coated mirrors, utensils, packages, toys, and in the construction of aircrafts and rockets.

On the other hand, finely divided aluminum dust is moderately flammable and explodes by heat or contact with strong oxidizing chemicals. Chronic inhalation of the powder can cause *aluminosis*, a type of pulmonary fibrosis. It is almost nontoxic by ingestion.

Properties of Aluminum

Name	Aluminum
Symbol	Al
Atomic number	13
Atomic weight	26.98154
Standard state	Solid at 298 °K
CAS Registry ID	7429-90-5
Group in periodic table	13
Group name	None

Properties of Aluminum (continued)

Period in periodic table	3
Block in periodic table	p-block
Color	Silvery
Classification	Metallic
Melting point	660.37 °C
Boiling point	2467 °C
Thermal conductivity	235.00 W/(m·K)
Electrical resistivity	2.6548 $\mu\Omega\cdot\text{cm}$ at 0 °C
Electronegativity	1.50
Specific heat	940.00 J/(kg·K)
Heat of vaporization	294.00 kJ·mol ⁻¹
Heat of fusion	10.70 kJ·mol ⁻¹
Density of solid	2.70 g/cm ³
Electron configuration	[Ne]3s ² 3p ¹
Oxidation state	+3