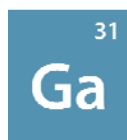


Stable isotopes of gallium available from ISOFLEX

Isotope	Z(p)	N(n)	Atomic Mass	Natural Abundance	Enrichment Level	Chemical Form
Ga-69	31	38	68.925581	60.11%	≥99.60%	Metal
Ga-69	31	38	68.925581	60.11%	≥99.60%	Oxide
Ga-71	31	40	70.924707	39.89%	≥99.80%	Metal
Ga-71	31	40	70.924707	39.89%	≥99.80%	Oxide



Gallium was discovered in 1875 by Paul-Émile Lecoq de Boisbaudran. It takes its name from the Latin name *Gallia*, meaning "France," and possibly also from the Latin word *gallus*, meaning "rooster" (and reflecting the discoverer's name, Lecoq). It is one of the few metals that can be liquid near room temperature, which makes it an effective feature of high-temperature thermometers. It can be undercooled to almost 0 °C without solidifying, and it is actually more dense as a liquid than as a solid.

Gallium is a gray orthogonal crystal or silvery liquid. It is soluble in acids and alkalis and slightly soluble in mercury. It reacts with most metals at high temperatures. Gallium exists in a liquid state in the widest temperature range. Chemical properties of gallium fall between those of aluminum and indium. It combines with phosphorus, arsenic and antimony, forming the corresponding binary compounds, which exhibit interesting semiconductor properties.

The most important use of gallium is as a doping agent for semiconductors, transistors and other solid-state devices. Some gallium compounds also have major applications in electroluminescent light emission, microwave generation and UV-activated powder phosphors. Another important use of gallium, in oxide form, involves the spectroscopic analysis of uranium oxide. Gallium also is used to make many low-melting alloys. Some other uses for gallium are in high-vacuum systems as a liquid sealant, as a heat-transfer medium, and to produce mirrors on glass surfaces.

Properties of Gallium

Name	Gallium
Symbol	Ga
Atomic number	31
Atomic weight	69.723
Standard state	Solid at 298 °K
CAS Registry ID	7440-55-3

Properties of Gallium (continued)

Group in periodic table	13
Group name	None
Period in periodic table	4
Block in periodic table	p-block
Color	Silvery white or gray
Classification	Metallic
Melting point	29.6 °C
Boiling point	2403 °C
Thermal conductivity	28.1 W/(m·K) at 302.93 °K
Electrical resistivity	17.4 μΩ·cm at 20 °C
Electronegativity	1.6
Specific heat	0.372 J/g mol at 20 °C
Heat of vaporization	256 kJ·mol ⁻¹
Heat of fusion	5.59 kJ·mol ⁻¹
Density of liquid	6.095 g/cm ³
Density of solid	5.91 g/cm ³
Electron configuration	[Ar]3d ¹⁰ 4s ² 4p ¹
Ionic radius	Ga ³⁺ : 1.13 Å
Most common oxidation state	+3 (also exhibits +2 and +1)