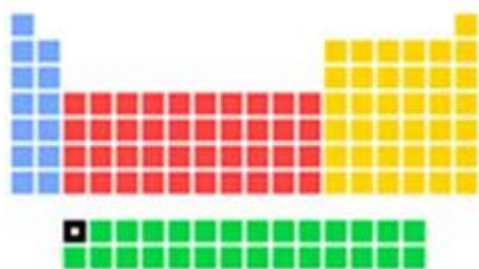


Lanthanum metallicum Natural History



Atomic Weight: 138.9055

Density: 6.146 g/cm³

Melting point: 920 C

Boiling Point: 3464 C



Lanthanum is a chemical element with the symbol **La** and atomic number 57. Lanthanum is a silvery white metallic element that belongs to group 3 of the periodic table and is the first element of the lanthanide series. It is found in some rare-earth minerals, usually in combination with cerium and other rare earth elements. Lanthanum is a malleable, ductile, and soft metal that oxidizes rapidly when exposed to air. It is produced from the minerals monazite and [bastnäsite](#) using a complex multistage extraction process. Lanthanum compounds have numerous applications as catalysts, additives in glass, carbon lighting for studio lighting and projection, ignition elements in lighters and torches, electron cathodes, scintillators, and others. Lanthanum carbonate ($\text{La}_2(\text{CO}_3)_3$) was approved as a medication against renal failure.

USES



Mischmetal block.

A large block of "mischmetal", a mixture of lanthanum, cerium, and a few other random rare earths. Blocks like this are used for spark effects in movies. It is incredibly sparky stuff, here I'm holding it up to a small grinding wheel. The "Spin" and "Rotate" videos show this in action.



Modern lantern mantle (operating).

Old lantern mantles famously used thorium oxide as the incandescent material, and were thus radioactive. Modern versions instead use a mixture of rare earth salts including lanthanum oxide. This photograph, and the 3D rotation video, were taken with the lantern lit, but the gas turned very low so you can see how the gas makes the mantle glow.

Small amounts of lanthanum added to steel improves its malleability, resistance to impact and ductility. Whereas addition of lanthanum to molybdenum decreases its hardness and sensitivity to temperature variations. Lanthanum is also used in the maintenance of swimming pools because of its ability to absorb phosphates.

Lanthanum has no known biological role. The element is very poorly absorbed after oral administration and when injected its elimination is very slow.



DISCOVERY

The word *lanthanum* comes from the Greek *λανθάνω* [lanthanō] = to lie hidden. Lanthanum was discovered in 1839 by Swedish chemist Carl Gustav Mosander, when he partially decomposed a sample of cerium nitrate by heating and treating the resulting salt with dilute nitric acid. From the resulting solution, he isolated a new rare earth he called *lantana*. Lanthanum was isolated in relatively pure form in 1923.

Although lanthanum belongs to the element group called rare earth metals, it is not rare at all. Lanthanum is available in relatively large quantities (32 ppm in Earth's crust). "Rare earths" got their name because they were indeed rare as compared to the "common" earths such as lime or magnesia, and historically only a few deposits were known. Lanthanum is taken into consideration as a rare earth metal because the process to mine is difficult, time consuming and expensive

Lanthanum has a low to moderate level of toxicity and should be handled with care. In animals, the injection of lanthanum solutions produces hyperglycemia, low blood pressure, degeneration of the spleen and hepatic alterations. The application in carbon arc light led to the exposure of people to rare earth element oxides and fluorides, sometimes led to pneumoconiosis.^[1]

Scholten

According to Jan Scholten's book "The Secret Lanthanides" Lanthanum is described using the mythological reference of Hercules asking advice from the Oracle of Delphi. Scholten says

"The strongest feeling that Lanthanum gives you is of insecurity and hesitation. It's as if they want to look in all directions in the same moment. They search for the possibilities and fear threats. They fear being ridiculed and bullied. Jestering is a big keynote. People tend to tease them automatically. They are often ridiculed a great deal which increases their insecurity. As a defense they can join the jesting, not knowing what better to do."

- Confusion about autonomy: Profound doubt that they can really be independent
- Trying many professions, falling into them without making a choice
- They are confused about themselves, they don't know who they are or what they stand for.
- He connects Lanthanum to the situation of the English boarding schools, relying on yourself and teasing by the other boys.^[2]

Per the proving, we see most of this come through in one fashion or another, although less emphasis on the jesting and more about sensitivity to embarrassment and ridicule. In Promethium we see more hilarity and jesting.

Sankaran

According to Sankaran Lanthanum "is doubtful and has the feeling 'Can I take responsibility or not?'" Column three is about confusion and instability and row six is about making decisions and taking responsibility.^[3]

Sources

- <http://en.wikipedia.org/wiki/Lanthanum>
- Scholten, Jan; "The Secret Lanthanides;" Stichting Alonnissors. 2005.
- Sankaran, Rajan; "Structure, Experiences with the Mineral Kingdom;" Homeopathic Medical Publishers. 2008.