

Gallium

Group 4A
Period 4

Atomic Number-31
Atomic Mass- 70

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Objective

I want to stay whole for more than 78 hours, after which I will decay to half my previous life. This is called my half-life. I also want to form an ionic bond, using my oxidation number of 4+, with any nonmetal, preferably ones with four valence electrons to form compounds such as gallium arsenide. After bonding, I can become a cation. As a reflective element, I am looking to get into the mirror industry. Specifically, a job making mirrors reflective.

Background

Discovery and Where to Find Me

My existence was first proposed in 1871 by Dmitri Mendeleev as a result of gaps in his new periodic table. French chemist Paul-Émile Lecoq de Boisbaudran discovered me spectroscopically in 1875. Later that year, he was able to obtain a pure substance of me through a solution of gallium hydroxide in potassium hydroxide. Trace amounts of me can be found in diaspore, sphalerite, germanite, and bauxite.

Common Isotopes and Atomic structure

I have a melting point of 85 degrees Fahrenheit, which makes me a substitute for mercury in thermometers. I also easily form alloys with most metals and I am often used to make low-melting alloys. My atomic structure consists of 31 protons, 31 electrons, and 49 neutrons. This, of course, is not the case for all of my common isotopes, such as Ga-69 and Ga-71.

Honors and Awards

“Substitute of the Year” Award

I am commonly used as a substitute for Mercury in thermometers, due to Mercury being unsafe.

“Most Reflective” Award

I am also used to create mirrors due to my reflective qualities.

“Poorer Than Your Grades” Award

I am part of the group of poor metals.

“Melting Ice Cube” Award

I have a melting point of 85 degrees Fahrenheit, which means that I melt similarly to an ice cube.

“Now You Hold Me, Now You Don’t” Award

Due to my low melting point, I melt easily in people's hands and occasionally fall out of their hands.

Skills and Experience

My reflectivity makes me an amazing mirror-creator, and my low-melting point makes me a great liquid to use in thermometers. I take pride in my ability to melt quickly at room temperatures. This combined with my reflectivity makes me an amazing metal to look at. As well as being good-looking, I am also used in mirrors and thermometers.

References

Arsenic

Period 4

Group 6A

poisonsbyarsenic@arsenic.com

www.poisonsbyarsenic.com

Arsenic and I create a compound called gallium arsenide, which is used to make LEDs.

Aluminum

Period 3

Group 4A

aluminumnotaluminium@aluminum.com

www.cansbyaluminum.com

Aluminum and I have been buddies forever. We're from the same family.

Germanium

Period 4

Group 5A

camerasbygermanium@germanium.com

www.lensbygermanium.com

Germanium and I are always next to each. We're from the same period of the periodic table.

Citations

“GALLIUM.” Chemistry Explained, www.chemistryexplained.com/elements/C-K/Gallium.html.

“It's Elemental.” It's Elemental - Isotopes of the Element Barium, education.jlab.org/itselemental/ele031.html.

Pedersen, Traci. “Facts About Gallium.” LiveScience, Purch, 25 July 2017, www.livescience.com/29476-gallium.html.