The One Metal America Still Dominates – For Now

written by Tracy Hughes | September 11, 2025

As Washington sounds alarms over America's reliance on foreign supplies of critical minerals, one recent analysis points out a glaring exception: beryllium. In a new sector review by Hallgarten & Company (September 2025), analyst Christopher Ecclestone argues that when it comes to beryllium, the United States *"has a stranglehold"* on supply – effectively keeping *"most of the rest of the world at its mercy"*. Beryllium, a lightweight metal used in fighter jets, satellites and nuclear reactors, is hardly a household name. Yet it has become America's secret strategic stronghold in the critical minerals arena. This dominance, however, may not last forever.

Why Beryllium Matters

Beryllium's unique properties make it indispensable for high-tech and defense applications. It is **roughly one-third the weight of aluminum but six times as stiff as steel**, giving engineers an ideal material for aerospace and military hardware where both lightness and strength are paramount. It can endure extreme heat (with a melting point around 2349°F) and resists corrosion, allowing beryllium components to perform in punishing conditions that would deform ordinary metals. These qualities have earned it a reputation as a quintessential "space-age metal". For example, the mirrors of NASA's James Webb Space Telescope are made of beryllium, chosen for its stiffness and stability in the frigid vacuum of space. In defense, beryllium alloys are used in advanced radar systems, guidance electronics, and fighter jet components – wherever every ounce saved and every degree of heat tolerance counts.

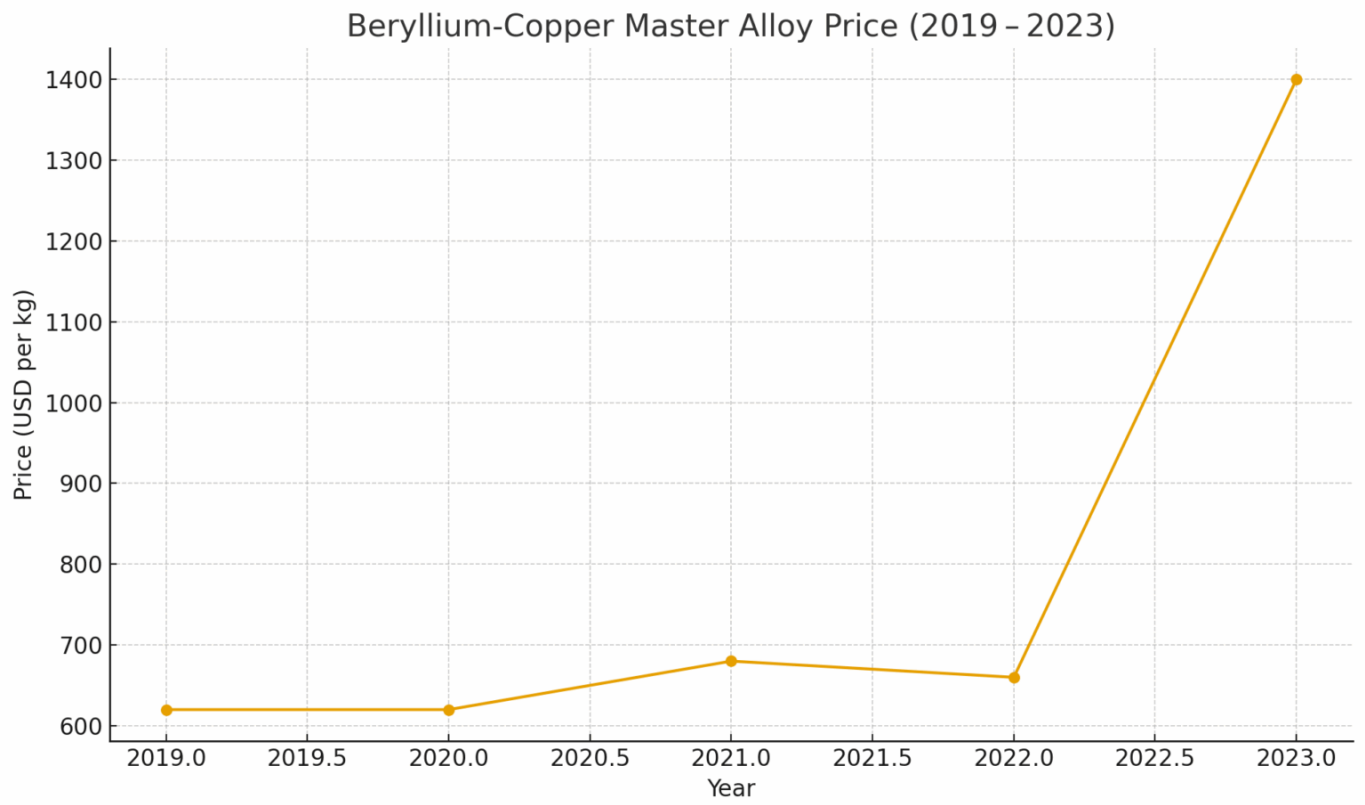
Demand for beryllium is closely tied to military and aerospace needs, which are on the rise. As global tensions increase, the Hallgarten report predicts that **boosted military budgets in the U.S. and across the West will drive up demand for beryllium**. The metal also has niche uses in the energy sector, and **future growth could come from next-generation nuclear reactors** – specifically, molten salt reactors, which may require beryllium-based materials in their core designs. In short, beryllium sits at the intersection of national defense, cutting-edge science, and industrial innovation. Possessing a secure supply of this metal gives the U.S. a significant strategic advantage.

An American Monopoly Built on a Single Supplier

The U.S. dominance in beryllium is largely built on one company: Materion Corporation **(NYSE: MTRN)**. For decades, Materion (formerly Brush Wellman) has operated the only significant beryllium mine and refining plant in the United States, at Spor Mountain in Utah. This singular position makes Materion the world's only integrated "mine-to-mill" supplier of beryllium. The **symbiotic relationship between the Pentagon and Materion** has been the foundation of America's control over the beryllium supply chain. During the 2000s, the U.S. Department of Defense even partnered with Materion to build a new high-purity beryllium processing facility in Ohio, completed in 2011. In essence, the U.S. government ensured its military would have a domestic source of this critical metal, and in return Materion enjoyed a protected monopoly in the American market.

This cozy arrangement secured **the only metal in which the U.S. truly dominates global production**. For many years, American mines (essentially Materion's mine) supplied the vast majority of the world's beryllium. Thanks to this near-monopoly,

beryllium prices have remained high, a situation sustained by Materion's market power and the Pentagon's willingness to pay a premium for guaranteed supply. (In fact, Hallgarten notes that the Defense Department has been willing to pay a *"Goldilocks price"* – not too low – to ensure Materion stays profitable and keeps calling the shots over at least half of global production.) From a national security standpoint, this makes beryllium an outlier: rather than scrambling to find non-Chinese sources (as with rare earths or lithium), the U.S. has been firmly in control of this supply chain for years.



Yet there's a downside to having a single supplier with free rein. **Materion's dominance has not been healthy for the market**. With no competition to speak of, the company has had little incentive to increase output or lower prices for foreign customers. The Hallgarten report pointedly notes that the beryllium sector is *"dominated/monopolized by one company, Materion, which is not a healthy situation"*. In practice, this monopoly meant limited exports and high costs. U.S. allies in

Europe, for instance, have struggled to procure beryllium because Materion's production is finite and often prioritized for domestic military use. Over time, **U.S. production hasn't even kept up with America's own growing demand — the nation has quietly become a net importer of beryllium** in recent years. This is a striking irony: even while one U.S. firm holds a grip on the world's primary beryllium mine, that grip has not translated into abundant supply. Instead, selling *less* beryllium at a higher price has been more profitable for the incumbent than expanding supply and risking lower prices.

Dominance Under Threat

America's comfortable lead in beryllium is no longer assured. **Just a decade ago, the U.S. accounted for around 90% of global beryllium production; today that share has fallen to roughly 56%.** In other words, the U.S. position has nearly been cut in half in ten years — a steep decline for such a strategic material. What happened? In short, **new supply sources (outside U.S. control) have started emerging**, while Materion's output stayed relatively flat. China, in particular, has taken note of beryllium's importance and America's complacency. Beijing has been **"quietly vacuuming up" beryllium-bearing mineral deposits in Africa** to undermine U.S. dominance. Countries like Rwanda and Madagascar, known to have beryl and bertrandite minerals (the ores of beryllium), have attracted Chinese interest and investment. By securing these overseas sources, China is positioning itself to boost its own beryllium supply and reduce its dependence on any American-controlled channels.

The Hallgarten report suggests that U.S. policymakers have been slow to react to these developments. The Washington establishment seems *"blithely unaware"* of China's maneuvers, despite warnings from industry experts. In fact, as far back as

2008, a U.S. Defense Department report warned that domestic beryllium production had *“atrophied”*. That was a red flag indicating America’s over-reliance on a single aging mine and company. More than 15 years later, not much has changed – except China is now far more active in the game. U.S. output stagnated, while Chinese and other foreign projects in places like Kazakhstan and Africa slowly chipped away at the U.S. market share. America’s one-metal monopoly has begun to crack, and with it comes the risk that beryllium could flip from a strategic asset to a strategic liability.

A Strategic Edge at Stake

Why does this trend matter? If the U.S. loses its dominance in beryllium, it loses a significant strategic edge. Beryllium is designated a critical material for defense; a disruption in supply would impact everything from fighter jet manufacturing to the maintenance of nuclear weapons and advanced communication systems. For now, the Pentagon can rely on a domestic mine and stockpiles. But if China (or others) develop alternative sources and ramp up production, they could undercut U.S. influence over price and availability. In a conflict scenario, if the U.S. needed to surge beryllium production or count on imports, **having let its monopoly lapse could prove costly**.

Moreover, high prices driven by the current monopoly have arguably held back broader use of beryllium. Paradoxically, Hallgarten’s analysis suggests that a price *decrease* – normally bad news for a commodity producer – would actually benefit the U.S. and its allies in the case of beryllium, by making the metal more accessible. Cheaper beryllium could spur innovation and stockpiling among friendly nations. If a new competitor (such as a junior mining company with a rich beryllium deposit) emerges, it could break Materion’s chokehold, increase supply,

and potentially drive prices down to more "user-friendly" levels. **This would bolster national security**: end-users like the U.S. military, Western aerospace firms, and nuclear researchers would have readier access to the material. Hallgarten even points out that current beryllium prices are high enough that any new producer would enjoy solid profits – implying that the lack of new mines has more to do with strategic and financial hurdles (and Materion's 800-pound-gorilla tactics) than with geology or economics.

For a change, the U.S. isn't at the mercy of others for a critical mineral – *they* are at its mercy. Beryllium is an example of American strength in resource security, a "national champion" situation that **should be a model for other critical metals**. But that model only works if it's maintained. Unfortunately, as Ecclestone observes, the U.S. has **"become sleepy with regard to its dominance"** in beryllium. Washington's lack of focus, combined with a go-slow approach by the sole producer, has allowed America's beryllium supremacy to erode. The one metal America still dominates could easily become the next metal it worries about, unless policymakers and industry wake up. Preserving this strategic edge may require encouraging new domestic beryllium projects or at least ensuring that existing capacity is expanded and modernized. In the Hallgarten report written by Ecclestone, the message is clear: **America's grip on beryllium is strong, but not unbreakable**. It would be a grave mistake to take this singular dominance for granted – because once lost, it may be impossible to regain.

To access the complete Hallgarten & Company Report, click here