

Beijing's Critical Minerals Ban Signals Rising US–China Trade Tensions

U.S. leaders have considered China's dominance in critical mineral production as a national security risk and have been working to find alternative sources.

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A loader shifts soil containing rare earth minerals to be loaded at a port in Lianyungang, in China's Jiangsu Province, on Sept. 5, 2010. STR/AFP via Getty Images



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News Analysis

Businesses worldwide were already bracing for increased U.S.–China trade tensions expected under the incoming Trump administration, but weeks before President-elect Donald Trump’s inauguration, China made an unprecedented move.



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The Biden administration on Dec. 2 strengthened [restrictions](#) against exporting advanced semiconductor technology to China, a move it has persuaded foreign countries and companies to participate in. In response, Beijing announced that it will specifically [ban](#) the exports of gallium, germanium, and antimony to the United States.

This marks the first time China has singled out the United States in critical mineral export controls, included provisions in the restrictions to prohibit other countries from re-exporting those minerals to the United States, and banned exports of “dual-use” items to the U.S. military.

Direct Response

[These minerals](#) are increasingly used in semiconductor manufacturing, and the ban was seen as a sign of rising trade tensions between the world’s largest economies.

Gallium, germanium, and antimony are designated “[critical minerals](#)” by the U.S. government, referring to non-fuel minerals essential to national or economic security and that pose a supply chain vulnerability for the United States.

China has given no indication that the move could be for purely economic reasons.

Yi Gang, former governor of the People's Bank of China, said at a think tank event in Tokyo on Dec. 4 that even in the face of tariffs, adhering to global free trade principles and not “retaliating” is the optimal response from an economic perspective, particularly given China's currently sluggish [GDP](#).

The Chinese Ministry of Commerce issued a brief statement announcing the ban, indicating that entities outside of China that violate it would be held accountable, though no details about enforcement methods were provided. It remains uncertain how Beijing might respond or impose penalties on foreign companies that may produce chips sold to the United States.

The same day Beijing announced the ban, Chinese industry associations issued a [rare](#) coordinated response urging Chinese businesses to use Chinese chipmakers, stating that U.S. chips were no longer “safe to buy.”

While the United States has issued restrictions on the most advanced chip technologies to China, the communist country remains a top buyer of older, larger chips for many manufacturers. Some have designed chips [specifically](#) for the Chinese market to adhere to U.S. export restriction rules.

Trump has proposed to enact tariffs on Chinese imports across the board when he takes office and to levy [additional duties](#) on China and other countries for breaking agreements.

Businesses across industries have [noted the incoming tariffs](#) and trade tensions in recent third-quarter earnings reports and calls with investors, announcing lower Chinese imports in the future and potentially higher prices.

Critical Minerals Market

Over the past three decades, China has obtained a monopoly over critical mineral production and processing, accounting for 70–90 percent of the market, depending on the mineral and processing stage.

U.S. officials and lawmakers have noted this as a national security risk and made a push to find alternative sources.

“We, in particular, anticipated this step because they had already moved to restrict germanium and gallium [in the past](#), before taking the full move this week to say no more exports to the United States,” White House national security adviser Jake Sullivan [said](#) at an event hosted by the Center for Strategic and International Studies in Washington on Dec. 4.

“There are other sources of germanium and gallium in the world.”

Intel, which has plans to ramp up semiconductor manufacturing with new fabs in Arizona, told The Epoch Times it does not see the new ban as a significant risk to operations.

“Our strategy of having a diverse, global supply chain minimizes our risk to local changes and interruptions,” a spokesperson said.

Free-market governments have grappled with ways to break free from China’s monopoly in partnership with the private sector. Opening a mine and entities to process raw minerals takes time, and making these entities profitable takes even longer. In the past, while these businesses tried to get a footing in the market, the Chinese regime engaged in market manipulation, such as dropping prices so steeply that it put competitors out of business, according to [officials](#).

Recognizing critical minerals as a resource of strategic importance, [governments](#) have [partnered](#) across the globe to invest heavily into starting up enterprises to insulate them from a potential “China shock.”

“We need to get together with likeminded producers, processors, and users of these critical minerals for a high standard critical minerals marketplace that ensures that China can’t, for example, crash the price of a critical mineral, drive mines out of business, reduce the global supply and operate as a chokehold,” Sullivan said at the Dec. 4 event in Washington. “That’s ultimately the logic we need to break.

“That is going to take ... at least the next decade to get ourselves into a position where we can really breathe a sigh of relief,” he said, warning the incoming administration that “there’s a lot more work to be done” in this “highly contested space.”

Gallium, Germanium, Antimony

Gallium is a byproduct of mining other metals such as aluminum, zinc, and copper. Gallium is used in semiconductor manufacturing for smartphones, batteries, charging devices, and LEDs.

Since China issued restrictions last year, the United States has imported the mineral from other countries, including Canada, Germany, and Japan, [according](#) to the U.S. Geological Survey.

In May, U.S. Critical Minerals [confirmed](#) the presence of gallium in southwestern Montana, where the company identified a high-grade rare earth vein.

Germanium is also mainly obtained as a byproduct of zinc production and has limited monetary value on its own, according to the U.S. Geological Survey. Outside of China, some 40 percent of it is produced in Canada, Finland, Russia, and the United States, [according](#) to the European Critical Raw Materials Alliance. Germanium is used in semiconductor manufacturing, fiber optic cables, plastic, sensors, and solar cells.

Antimony is used for fireproofing and electronics, among other things, and has military applications in nuclear weapons and infrared sensors.

According to the U.S. Geological [Survey](#), China continues to be the top producer of antimony, accounting for 48 percent of global production in 2023. Countries like Italy, Belgium, India, Vietnam, and Bolivia also process the mineral. Outside of China, antimony can be found in Australia, Bolivia, Burma, Mexico, Russia, South Africa, Tajikistan, and the United States.

On Dec. 4, China also restricted exports of graphite, which is used in batteries, electric vehicles, and industrial processing to create super-hard materials.

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