DEPARTMENT OF THE INTERIOR

Geological Survey

Final 2025 List of Critical Minerals

AGENCY: Geological Survey, Interior.

ACTION: Notice.

SUMMARY: Critical minerals are essential for national security, economic stability, and supply chain resilience because they underpin key industries, drive technological innovation, and support critical infrastructure vital for a modern American economy. The United States is heavily reliant on imports of certain mineral commodities from foreign sources, some of which are at risk of serious, sustained, and long-term supply chain disruptions. The United States' dependence on imports and the vulnerability of supply chains raise the potential for risks to national security, defense readiness, price stability, and economic prosperity and resilience. The Nation possesses vast mineral resources that can create jobs, fuel prosperity, and significantly reduce our reliance on foreign nations, and the United States is taking actions to facilitate domestic mineral production. The List of Critical Minerals guides strategies to secure the Nation's mineral supply chains. By this notice, the Secretary of the Interior, acting through the Director of the U.S. Geological Survey (USGS), presents the final 2025 List of Critical Minerals and the methodology used to develop the List. Mineral criticality changes over time and therefore this final 2025 List of Critical Minerals is not a permanent list but will be dynamic and updated not less than biannually to reflect current data on supply, demand, and concentration of production, as well as current policy priorities. The final 2025 List of Critical Minerals, which revises the final List published by the Secretary in 2022, includes the following 60 minerals: aluminum, antimony, arsenic, barite, beryllium, bismuth, boron, cerium, cesium, chromium, cobalt, copper, dysprosium, erbium, europium, fluorspar, gadolinium, gallium, germanium, graphite, hafnium, holmium, indium, iridium, lanthanum, lead, lithium, lutetium, magnesium,

manganese, metallurgical coal, neodymium, nickel, niobium, palladium, phosphate, platinum, potash, praseodymium, rhenium, rhodium, rubidium, ruthenium, samarium, scandium, silicon, silver, tantalum, tellurium, terbium, thulium, tin, titanium, tungsten, uranium, vanadium, ytterbium, yttrium, zinc, and zirconium.

ADDRESSES: Public comments received on the draft 2025 List of Critical Minerals are available at www.regulations.gov under docket number USGS-2025-0039; GX25GB00PAMR000.

FOR FURTHER INFORMATION CONTACT: By email at minerals@usgs.gov or Jenifer Bracewell by telephone at (703) 648-5276. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States. The Federal Relay Service (FRS) is available 24 hours a day, 7 days a week, to leave a message or question with this individual. You will receive a reply during normal business hours. Normal business hours are 9:00 a.m. to 5:30 p.m., Monday through Friday, except for Federal holidays.

SUPPLEMENTARY INFORMATION: In 2020, Congress enacted the Energy Act of 2020 (the Energy Act, Pub. L. No. 116-260, as amended by Pub. L. No. 118-233), which established the definition of a critical mineral, required the USGS on behalf of the Secretary of the Interior to update the List of Critical Minerals "not less than" at least every 3 years, and identified requirements for public comment, interagency review, and the publication of the draft and final List in the Federal Register.

Executive Order 14154, "Unleashing American Energy" (January 20, 2025), directed the Secretary in section 9(c) to "instruct the Director of the U.S. Geological Survey to consider updating the Survey's List of Critical Minerals, including for the potential of including

uranium." Additionally, Executive Order 14261, "Reinvigorating America's Beautiful Clean Coal Industry and Amending Executive Order 14241" (April 8, 2025). directed the Secretary in section 9(b) to "determine whether metallurgical coal used in the production of steel meets the criteria to be designated as a 'critical mineral' under the Act and, if so, […] take steps to place coal on the Department of the Interior Critical Minerals List."

On August 26, 2025, the Secretary of the Interior, acting through the Acting Director of the USGS, published in the Federal Register the draft 2025 List of Critical Minerals and the updated methodology in accordance with section 7002 of the Energy Act. 90 FR 41591. The draft 2025 List included 54 mineral commodities, with six mineral commodities (potash, silicon, copper, silver, rhenium and lead) recommended for addition to the List and two mineral commodities (arsenic and tellurium) recommended for removal compared to the final 2022 List. Further details on the underlying rationale and the specific approach, data sources, and assumptions used to calculate each component of the supply risk metrics are described in the references cited in this notice. The Federal Register notice provided for a 30-day public comment period, which closed on September 25, 2025. The comments are available for public viewing at www.regulations.gov under docket USGS-2025-0039; GX25GB00PAMR000.

The USGS developed the List of Critical Minerals using methodology based on the definition of "critical mineral" and the criteria specified in the Energy Act. Earlier versions of the methodology have been published by the USGS in 2020[1] and 2021.[2] In 2025, the USGS substantially enhanced the methodology to quantify the risks that potential supply chain disruptions may pose to the U.S. economy and national security, and to recommend mineral commodities for inclusion on the List.[3]

The updated 2025 methodology is based on two primary criteria: (1) an economic effects assessment that quantified the potential impacts of foreign trade disruption scenarios on the U.S. economy, and (2) an examination of whether the mineral commodity's supply chain relied on a sole domestic producer that represented a single point of failure. The supply chain disruption

model assessed the potential effects of over 1,200 disruption scenarios of 84 mineral commodities on 402 individual industries and the U.S. economy overall.

The Department received 163 public comments on the draft 2025 List, supporting or opposing the inclusion of 62 minerals. Comments were received from individuals, technical experts, industry, companies, associations, Federal and State agencies, and members of Congress.

Section 7002(c)(4)(C) of the Energy Act requires the Secretary of the Interior to "consult with the Secretaries of Defense, Commerce, Agriculture, Health and Human Services, and Energy and the United States Trade Representative in designating minerals, elements, substances, and materials as critical." The Secretary engaged in this interagency review process, concurrent with the public comment period, to ensure that perspectives and analyses from other agencies are captured in the final List. In this review process, the Department of War noted the importance of arsenic and tellurium for national security. The Department of Energy recommended the addition of metallurgical coal and uranium, citing the use of these minerals in steel production, energy, and defense. The U.S. Department of Agriculture recommended the addition of phosphate, citing its importance to food security.

Section 7002(c)(4)(B) of the Energy Act allows the Secretary to designate a critical mineral determined by another Federal agency to be strategic and critical to the defense or national security of the United States, notwithstanding the Energy Act's criteria for designating a critical mineral. Based on the recommendations and expertise from the Department of Energy, Department of War, and Department of Agriculture, the Secretary hereby includes arsenic, tellurium, metallurgical coal, uranium, and phosphate on the final 2025 List of Critical Minerals.

The USGS also received additional information on the boron supply chain during the public comment process. Although the USGS could not model the supply chain risk for ferroboron, three other steel alloys with similar (70 to 80 percent) Chinese market control—silicon, titanium, and chromium ferroalloys—had sufficient probability-weighted impacts on the

U.S. Gross Domestic Product (GDP) that the USGS methodology recommended including them on the List. After considering all comments received, the USGS believes that the updated methodology described in USGS Open-File Report 2025-1047 (https://doi.org/10.3133/ofr20251047) is a valid basis for the review and revision of the List of Critical Minerals.

In response to the public and interagency input required by the Energy Act, the Secretary hereby includes arsenic, boron, metallurgical coal, phosphate, tellurium, and uranium on the final 2025 List of Critical Minerals. The final 2025 List of Critical Minerals, together with information about the occurrence of each mineral as a byproduct, is provided in the following table. Note that a number of the listed byproducts are increasingly recovered as co-products, which are additional mineral commodities that contribute significant value to mining or processing.

Mineral commodities for inclusion on the final 2025 List of Critical Minerals	Produced as a byproduct/co-product	Main host commodities for byproducts/co-products
Aluminum	No	—
Antimony	Yes	Lead, gold, other base and precious metals
Arsenic	Yes	Copper, gold, lead, zinc
Barite	No	—
Beryllium	No	—
Bismuth	Yes	Lead, tungsten, copper, tin, molybdenum, fluorspar, zinc
Boron	No	—
Cerium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Cesium	No	—
Chromium	No	—
Cobalt	Yes	Nickel, copper
Copper	No	—
Dysprosium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Erbium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Europium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Fluorspar	No	—
Gadolinium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Gallium	Yes	Bauxite and zinc
Germanium	Yes	Zinc and coal fly ash
Graphite	Yes (for synthetic graphite but not for natural graphite)	Needle coke (for synthetic graphite)
Hafnium	Yes	Zirconium
Holmium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Indium	Yes	Zinc
Iridium	Yes	Platinum, nickel
Lanthanum	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Lead	No	—
Lithium	No	—
Lutetium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Magnesium	No	—
Manganese	No	—
Metallurgical coal	No	—
Neodymium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Nickel	No	—
Niobium	No	—

Palladium	Yes	Nickel, platinum
Phosphate	No	—
Platinum	No	—
Potash	No	—
Praseodymium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Rhenium	Yes	Molybdenum, copper
Rhodium	Yes	Nickel, platinum
Rubidium	Yes	Cesium, lithium
Ruthenium	Yes	Nickel, platinum
Samarium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Scandium	Yes	Cobalt, nickel, titanium, zirconium
Silicon	No	—
Silver	Yes	Zinc, lead, copper, gold
Tantalum	No	—
Tellurium	Yes	Copper, lead, nickel, platinum, zinc
Terbium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Thulium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Tin	No	—
Titanium	No	—
Tungsten	No	—
Uranium	No	—
Vanadium	Yes	Steel slag from vanadiferous iron ore, spent catalysts
Ytterbium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Yttrium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium)
Zinc	No	—
Zirconium	Yes	Titanium, tin

The List of Critical Minerals is not static and will be reviewed dynamically (as needed) and revised as necessary to reflect current data on supply, demand, and concentration of production, as well as current policy priorities, as required under the Energy Act of 2020.

The U.S. Government and other organizations may also use other definitions and rely on other criteria to identify a mineral as critical or otherwise important. In addition, there are many minerals not on the final 2025 List of Critical Minerals that are nevertheless important to the economic and national security of the United States. This final 2025 List of Critical Minerals is

not intended to replace related terms and definitions of minerals that are deemed strategic or otherwise important.

Authority: Sec. 7002, Pub. L. No. 116-260, as amended by Pub. L. No. 118-233 (30 U.S.C. 1606).

Endnotes:

1. Nassar, N.T., Brainard, J., Gulley, A., Manley, R., Matos, G., Lederer, G., Bird, L.R., Pineault, D., Alonso, E., Gambogi, J., Fortier, S.M., 2020, Evaluating the mineral commodity supply risk of the U.S. manufacturing sector Sci. Adv., 6(8) (2020), p. eaay8647, https://doi.org/ 10.1126/ sciadv.aay8647.

2. Nassar, N.T., and Fortier, S.M., 2021, Methodology and technical input for the 2021 review and revision of the U.S. Critical Minerals List: U.S. Geological Survey Open-File Report 2021-1045, 31 p., https://doi.org/ 10.3133/ ofr20211045.

3. Nassar, N.T., Pineault, D., Allen, S.M., McCaffrey, D.M., Padilla, A.J., Brainard, J.L., Bayani, M., Shojaeddini, E., Ryter, J.W., Lincoln, S., and Alonso, E., 2025, Methodology and technical input for the 2025 U.S. List of Critical Minerals—Assessing the potential effects of mineral commodity supply chain disruptions on the U.S. economy: U.S. Geological Survey Open-File Report 2025–1047, 32 p., https://doi.org/10.3133/ofr20251047.

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