

Table 1 - Beijing's growing weaponisation of critical material supply chains

Critical material		Introduction date of export controls	Response to which US actions	China's share of global production in 2024 (mining, primary production, or refining)		Examples of material end-use
Gallium		2023 (Aug)	US-led semiconductor controls, including on Dutch and Japanese manufacturing equipment	<u>Mining in 2023:</u> Bauxite: <u>23%</u> Zinc: <u>32%</u>	<u>Primary production:</u> <u>98%</u>	Higher- <u>power</u> and higher- <u>frequency electronics</u> , including power semiconductors, for (next-generation) <u>radars</u> , aerospace (incl. <u>satellites</u>), quantum components, LiDAR sensors, <u>5G</u> networks, <u>electronic warfare systems</u> , <u>data centres</u> , communication systems, <u>medical equipment</u> , power grid management, magnets and lighting (LED and displays, smartphones, TVs, etc.).
Germanium		2023 (Aug)		<u>Mining in 2023:</u> Zinc: <u>32%</u> Coal Fly Ash (CFA): N/A	<u>Refining:</u> <u>93%*</u> in 2022	High-speed <u>transistors</u> , <u>fibre optic cables</u> , computers, <u>communication systems</u> , <u>radars</u> , missile detection systems, night vision systems, helicopters, tanks, electrical motors, batteries, displays, <u>chemotherapy</u> , <u>satellite solar cells</u> .
Graphite (<u>high purity</u> and <u>high quality</u>)		2023 (Oct)	Expansion of US semiconductor controls	<u>Primary production (of natural graphite):</u> <u>64%</u>		<u>Battery-manufacturing</u> , including for electric vehicles and drones (e.g. UAVs).
Antimony		2024 (Sep)	Unclear	<u>Mining:</u> <u>48%</u>		<u>Bullets</u> , other <u>armour-piercing</u> ammunitions, and <u>batteries</u> .
Tungsten		2025 (Feb)	Trump's imposition of 25% import tariffs against China	<u>Concentrate production:</u> <u>75%</u>		Ultra-hard metal, used to produce <u>artillery shells</u> , <u>armour</u> , <u>grenades</u> , <u>bullet-proof vehicles</u> , <u>armoured tanks</u> and <u>warheads</u> .
Indium		2025 (Feb)		<u>Refining:</u> <u>71%</u>		<u>Displays</u> and <u>fibre optic</u> technology and <u>laser rangefinders</u> .
Bismuth		2025 (Feb)		<u>Refining:</u> <u>82%</u> (in 2023)		<u>Atomic research</u> and <u>medications</u> .
Tellurium		2025 (Feb)		<u>Refining:</u> <u>75%</u> (in 2023)		<u>Memory chips</u> and <u>solar panels</u> .
Molybdenum		2025 (Feb)		<u>Mining:</u> <u>42%</u> (in 2023)		Hardening steel, <u>airframes</u> , <u>weapons</u> on tanks and principal surface combatants.
Rare earths	<u>Light:</u> e.g. Neodymium	Not controlled; Rare Earth Traceability System introduced in October 2024	Not applicable	<u>Extraction:</u> <u>69%</u>	<u>Refining:</u> <u>85%</u> in 2023	Applications include permanent magnets, lasers and lenses used in the <u>F-35-fighter jet</u> (~450kg), <u>destroyers</u> , <u>submarines</u> , <u>radar systems</u> , <u>missiles</u> , drones (including <u>Unmanned Aerial Vehicles</u>), <u>smart bombs</u> , <u>offshore wind turbines</u> (~12000kg), electric vehicles and <u>humanoid robots</u> . REEs are also used in electronic warfare, industrial machinery, nuclear power plants, MRI-systems and data centres. Dysprosium is also used <u>in advanced semiconductors</u> .
	<u>Heavy:</u> e.g. Dysprosium	2025 (Apr); Rare Earth Traceability System introduced in October 2024	Trump's imposition of "reciprocal tariffs" against China		<u>Refining:</u> <u>100%</u> in 2023	

Source: Joris Teer, 2025. This table forms part of CSDS Policy Brief entitled "[Caught in the US-China Crossfire: To Protect Itself, Europe Must Call a Critical Raw Material Emergency](#)".