ARSENIC

(Data in metric tons, arsenic content,[1] unless otherwise specified)

Domestic Production and Use: Arsenic trioxide and primary arsenic metal have not been produced in the United States since 1985. The principal use for arsenic compounds was in herbicides and insecticides. Arsenic trioxide was predominantly used for the production of arsenic acid, which is a key ingredient in the production of chromated copper arsenate (CCA) preservatives. CCA preservatives are used for the pressure treating of lumber for primarily nonresidential applications such as light poles, marine applications, and retaining walls. Seven companies produced CCA-treated wood in the United States in 2025. High-purity (99.9999%) arsenic metal was used to produce gallium-arsenide (GaAs) semiconductors for solar cells, space research, and telecommunications; germanium-arsenide-selenide specialty optical materials; and indium-gallium-arsenide (InGaAs) for use in shortwave infrared technology. Arsenic metal was used as an antifriction additive for bearings, to harden lead shot and clip-on wheel weights, and to strengthen the grids in lead-acid storage batteries. The estimated value of arsenic compounds and metal imported domestically in 2025 was $8.4 million. Given that arsenic metal has not been produced domestically since 1985, it is likely that only a small portion of the material reported by the U.S. Census Bureau as arsenic exports was pure arsenic metal, and most of the material that was reported under this category reflects the gross weight of alloys, compounds, residues, scrap, and waste products containing arsenic. Therefore, the estimated consumption reported under U.S. salient statistics reflects only imports of arsenic products. Domestically, the leading use of arsenic was for the production of herbicides, insecticides, and wood preservatives (more than 80%), followed by metallurgical and semiconductor applications.

Salient Statistics—United States:	**2021**	**2022**	**2023**	**2024**	**2025[e]**
Imports for consumption:[2]					
Arsenic metal	835	896	612	533	740
Compounds	4,730	9,190	5,810	9,070	5,500
Total	5,560	10,100	6,430	9,610	6,300
Exports, arsenic metal[3]	31	82	34	138	51
Consumption, estimated, all forms of arsenic[4]	5,560	10,100	6,430	9,610	6,300
Price, metal, annual average, U.S. warehouse,[5] dollars per pound	1.11	1.82	2.05	1.97	1.85
Net import reliance[6] as a percentage of estimated consumption, all forms of arsenic	100	100	100	100	100

Recycling: Arsenic metal was contained in new scrap recycled during GaAs semiconductor manufacturing. Arsenic-containing process water was internally recycled at wood treatment plants where CCA was used. Although scrap electronic circuit boards, relays, and switches may contain arsenic, no arsenic was known to have been recovered during the recycling process to recover other contained metals. No arsenic was recovered domestically from arsenic-containing residues and dusts generated at nonferrous smelters in the United States.

Import Sources (2021–24):[2] Arsenic acid: Malaysia, 99%; and other, 1%. Arsenic metal: China, 95%; Japan, 3%; and other, 2%. Arsenic trioxide: China,[7] 61%; Morocco, 27%; Belgium, 6%; and other, 6%. All forms of arsenic: China,[7] 45%; Malaysia, 30%; Morocco, 16%; and other, 9%.

Tariff: Item	**Number**	**Normal Trade Relations 12–31–25**
Arsenic metal	2804.80.0000	Free.
Arsenic acid	2811.19.1000	2.3% ad valorem.
Arsenic trioxide	2811.29.1000	Free.
Arsenic trichloride	2812.19.0010	3.7% ad valorem.
Arsenic sulfide	2813.90.1000	Free.

Depletion Allowance: 14% (domestic and foreign).

Government Stockpile: None.

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ARSENIC

Events, Trends, and Issues: Peru, China, and Morocco, in descending order of production, continued to be the leading global producers of arsenic trioxide, accounting for more than 95% of estimated world production in 2025. China supplied more than 80% of United States imports of arsenic trioxide and more than 90% of arsenic metal imports through July 2025. Malaysia supplied almost all of the arsenic acid that was imported through July 2025.

High-purity arsenic metal was used to produce GaAs, indium-arsenide, and InGaAs semiconductors that were used in aerospace devices, biomedical devices, military applications, mobile devices, optoelectronic devices, photovoltaic applications, satellites, and wireless communications.

World Production and Capacity:

	Production[e, 8] (arsenic trioxide, gross weight)		Refinery capacity (arsenic trioxide, gross weight)[9]
	2024	2025	2025[e]
United States	—	—	—
Belgium	1,000	1,000	1,500
China	24,000	24,000	30,000
Japan	40	—	60
Morocco	6,000	5,000	8,000
Peru	31,000	30,000	37,000
Russia	500	500	4,000
World total (rounded)	62,500	61,000	81,000

World Resources:[10] Arsenic may be obtained from copper, gold, and lead smelter flue dust, as well as from roasting arsenopyrite, the most abundant ore mineral of arsenic. Arsenic has been recovered from orpiment and realgar in China, Peru, and the Philippines and from copper-gold ores in Chile, and arsenic is associated with gold occurrences in Canada. Orpiment and realgar from gold mines in Sichuan Province, China, were stockpiled for later recovery of arsenic. Arsenic also may be recovered from enargite, a copper mineral. Arsenic trioxide was produced at the hydrometallurgical complex of Guemassa, near Marrakech, Morocco, from cobalt-arsenide ore from the Bou Azzer Mine. World reserve data were unavailable but were estimated to be more than 20 times world production.

Substitutes: Substitutes for CCA in wood treatment include alkaline copper quaternary, ammoniacal copper quaternary, ammoniacal copper zinc arsenate, alkaline copper quaternary boron-based preservatives, copper azole, copper citrate, and copper naphthenate. Treated wood substitutes include concrete, plastic composite material, plasticized wood scrap, or steel. Silicon-based complementary metal-oxide semiconductor power amplifiers compete with GaAs power amplifiers in midtier third-generation cellular handsets. Many semiconductor manufacturers were moving away from GaAs- and silicon-based lateral diffused metal-oxide-semiconductor field-effect transistors to those using gallium nitride. Indium phosphide components can be substituted for GaAs-based infrared laser diodes in some specific-wavelength applications, and helium-neon lasers compete with GaAs in visible laser diode applications. Silicon is the principal competitor with GaAs in solar-cell applications. In many defense-related applications, GaAs-based integrated circuits are used because of their unique properties, and no effective substitutes exist for GaAs in these applications. In heterojunction bipolar transistors, GaAs is being replaced in some applications by silicon-germanium.

[e]Estimated. — Zero.

[1]Arsenic content of arsenic metal is 100%; arsenic content of arsenic compounds is 52.8% for arsenic acid, 60.7% for arsenic sulfide, 41.33% for arsenic trichloride, and 75.71% for arsenic trioxide.

[2]Arsenic content calculated from the reported gross weight of imports. See footnote 1 for content percentages of arsenic metal and compounds.

[3]May include alloys, compounds, and waste.

[4]Estimated to be the same as total imports.

[5]Minimum 99% arsenic. Source: Argus Media group, Argus Non-Ferrous Markets.

[6]Defined as imports.

[7]Includes Hong Kong.

[8]Includes calculated arsenic trioxide equivalent of output of elemental arsenic compounds other than arsenic trioxide; inclusion of such materials would not duplicate reported arsenic trioxide production. Chile and Mexico were estimated to be significant producers of commercial-grade arsenic trioxide but have reported no production in recent years.

[9]Yearend operation capacity.

[10]See Appendix C for resource and reserve definitions and information concerning data sources.