ASBESTOS

(Data in metric tons unless otherwise noted)

Domestic Production and Use: The last U.S. producer of asbestos ceased operations in 2002 as a result of the decline in domestic and international asbestos markets associated with health and liability issues. The United States has since been wholly dependent on imports to meet manufacturing needs. All of the unmanufactured asbestos fiber imported into and used within the United States has consisted of chrysotile since no later than 1999. In 2022, U.S. consumption of chrysotile was estimated to be 260 tons, and all imports originated from Brazil, based on data available through July. The chloralkali industry, which uses chrysotile to manufacture nonreactive semipermeable diaphragms that prevent chlorine generated at the anode of an electrolytic cell from reacting with sodium hydroxide generated at the cathode, has accounted for 100% of domestic asbestos fiber consumption since 2015. In addition to unmanufactured asbestos fiber, a small, but unknown, quantity of asbestos is imported annually within manufactured products. According to the U.S. Environmental Protection Agency (EPA), the only imported items known to contain asbestos as of 2020 were brake blocks for use in the oil industry, preformed gaskets used in the exhaust system of a specific type of utility vehicle, rubber sheets for gasket fabrication (primarily used to create a chemical containment seal in the production of titanium dioxide), and some vehicle friction products.[1]

Salient Statistics—United States:[2]	2018	2019	2020	2021	2022[e]
Imports for consumption[3]	681	172	305	41	[4]100
Exports[5]	—	—	—	—	—
Consumption, estimated[6]	500	450	450	310	260
Price, average U.S. customs unit value of imports, dollars per ton	1,670	1,570	2,110	1,880	1,900
Net import reliance[7] as a percentage of estimated consumption	100	100	100	100	100

Recycling: None.

Import Sources (2018–21): Brazil, 75%; and Russia, 25%. The U.S. Census Bureau reported imports from China in 2021, but bill of lading information and data reported by the Government of China suggest that shipments from China were misclassified.

Tariff: Item	Number	Normal Trade Relations 12–31–22
Crocidolite	2524.10.0000	Free.
Amosite	2524.90.0010	Free.
Chrysotile:		
Crudes	2524.90.0030	Free.
Milled fibers, group 3 grades	2524.90.0040	Free.
Milled fibers, group 4 and 5 grades	2524.90.0045	Free.
Other	2524.90.0055	Free.
Other, asbestos	2524.90.0060	Free.

Depletion Allowance: 22% (domestic), 10% (foreign).

Government Stockpile: None.

Events, Trends, and Issues: Consumption of unmanufactured asbestos fiber in the United States has decreased during the past several decades, falling from a record high of 803,000 tons in 1973 to 500 tons or less in each year since 2018. This decline has taken place as a result of health and liability issues associated with asbestos use, leading to the displacement of asbestos from traditional domestic markets by substitutes, alternative materials, and new technology. The chloralkali industry is the only remaining domestic consumer of asbestos in mineral form. As of yearend 2022, asbestos diaphragms were used in nine chloralkali plants in the United States and accounted for about one-third of U.S. chlorine production.

In April 2022, the EPA proposed a rule that would ban the commercial use, distribution in commerce, import, manufacturing, and processing of chrysotile for all chrysotile-containing products that are still used in the United States: aftermarket automotive brakes and linings and other vehicle friction products, diaphragms used in the chloralkali industry, oilfield brake blocks, and sheet and other gaskets. The prohibitions on asbestos diaphragms and sheet gaskets would take effect 2 years after the effective date of the final rule, and the prohibitions on other items would take effect 180 days after finalization. The EPA had not issued the final rule as of the end of September 2022. In 2019, the EPA banned all discontinued uses of asbestos from restarting without the EPA having an opportunity to evaluate each intended use and take any necessary regulatory action. If finalized, the rule proposed in April 2022 would effectively prohibit all uses of asbestos in the United States.

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Estimated worldwide consumption of unmanufactured asbestos fiber ranged from 1.1 to 1.3 million tons per year from 2015 through 2021, a significant decrease from approximately 2 million tons in 2000. Global demand for asbestos will likely continue for the foreseeable future, particularly for use in cement pipe, roofing sheets, and other construction materials in Asia.

The Supreme Federal Court of Brazil enacted a national ban on asbestos in November 2017. With the exception of an approximately 2-week pause because of a legal challenge in 2021, the only asbestos producer in the country has operated its mine continuously since November 2020 under the authority of a State law that permits the extraction and processing of asbestos in the State of Goias for export purposes only.

One company in Zimbabwe began producing asbestos in 2019 from tailings of its former mines, with an average monthly output of 500 tons as of August 2019. In 2020, the company was attempting to acquire funds to potentially restart operations at the King Mine (part of the Gaths mining complex) in Mashava and the Shabanie Mine in Zvishavane. Information on the status of asbestos production from tailings was unavailable in 2022, but local media reports suggested that the company lacked the capital required to return the mines to production. In addition to the financial challenges, critical areas of the mines were inaccessible because of flooding and rockfalls.

World Mine Production and Reserves: Reserves for China were revised based on Government reports.

	Mine production		
	2021	2022[e]	Reserves[8]
United States	—	—	Small
Brazil	[9]154,000	190,000	11,000,000
China	[e]130,000	130,000	15,000,000
Kazakhstan	250,000	230,000	Large
Russia	699,000	700,000	110,000,000
Zimbabwe	[e]10,000	—	Large
World total (rounded)	1,240,000	1,300,000	Large

World Resources:[8] Reliable evaluations of global asbestos resources have not been published recently, and available information was insufficient to make accurate estimates for many countries. However, world resources are large and more than adequate to meet anticipated demand in the foreseeable future. Resources in the United States are composed mostly of short-fiber asbestos for which use in asbestos-based products is more limited than long-fiber asbestos.

Substitutes: Numerous materials substitute for asbestos, including calcium silicate, carbon fiber, cellulose fiber, ceramic fiber, glass fiber, steel fiber, wollastonite, and several organic fibers, such as aramid, polyethylene, polypropylene, and polytetrafluoroethylene. Several nonfibrous minerals or rocks, such as perlite, serpentine, silica, and talc, are also considered to be possible asbestos substitutes for products in which the reinforcement properties of fibers are not required. Membrane cells and mercury cells are alternatives to asbestos diaphragms used in the chloralkali industry.

[e]Estimated. — Zero.

[1]Source: U.S. Environmental Protection Agency, 2020, Risk evaluation for asbestos part I—Chrysotile asbestos: Washington, DC, EPA Document no. EPA-740-R1-8012, December, 352 p.

[2]Includes unmanufactured asbestos fiber (chrysotile) only; excludes asbestos contained in manufactured products.

[3]Modified from reported U.S. Census Bureau data. Small quantities of additional chrysotile imports from Italy and Japan were reported in 2018, but existing asbestos bans suggest that these shipments were misclassified. Significant additional imports from China were reported in 2021 and 2022, but bill of lading information and data reported by the Government of China suggest that these shipments were also misclassified.

[4]According to the U.S. Census Bureau, chrysotile imports from Brazil totaled 50 tons through July. Final 2022 imports may differ significantly from the provided estimate because chrysotile imports typically do not follow a predictable pattern throughout the year.

[5]Exports of unmanufactured asbestos fiber reported by the U.S. Census Bureau were 235 tons in 2018, 2 tons in 2019, 1 ton in 2020, 461 tons in 2021, and 134 tons through July 2022. These shipments likely consisted of materials misclassified as asbestos, reexports, and (or) waste products because asbestos has not been mined in the United States since 2002.

[6]To account for year-to-year fluctuations in chrysotile imports owing to cycles of companies replenishing and drawing down stockpiles, consumption is estimated as a 5-year rolling average of imports for consumption. Information regarding the quantity of industry stocks was unavailable.

[7]Defined as imports – exports. The United States has been 100% import reliant since 2002. All domestic consumption of unmanufactured asbestos fiber was from imports and unreported inventories.

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

[9]Asbestos production in Brazil is permitted for export purposes only. The value shown represents reported country exports of asbestos.

U.S. Geological Survey, Mineral Commodity Summaries, January 2023