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. In 2017, all of the asbestos minerals imported into and used within the United States consisted of chrysotile and were shipped from Brazil. Domestic consumption of asbestos minerals was estimated to be 300 tons, 57% less than 702 tons in 2016 and 22% less than 386 tons in 2015. Actual consumption of asbestos in 2016 may have been lower owing to stockpiling by companies, but information regarding industry stocks was unavailable. The chloralkali industry, which uses asbestos to manufacture semipermeable diaphragms that prevent chlorine generated at the anode of an electrolytic cell from reacting with sodium hydroxide generated at the cathode, accounted for nearly 100% of asbestos mineral consumption in 2017, based on bill of lading information obtained from a commercial trade database. In addition to asbestos minerals, an unknown quantity of asbestos was imported within manufactured products, including asbestos-containing brake linings, knitted fabric, rubber sheets for gasket manufacture, and potentially asbestos-cement pipe.

Salient Statistics—United States:	**2013**	**2014**	**2015**	**2016**	**2017[e]**
Imports for consumption[1]	772	406	386	702	300
Exports[2]	—	—	—	—	—
Consumption, estimated[3]	772	406	386	702	300
Price, average U.S. Customs value, dollars per ton	1,510	1,830	2,090	2,040	1,920
Net import reliance[4] as a percentage of estimated consumption	100	100	100	100	100

Recycling: None.

Import Sources (2013–16): Brazil, >99%; and Russia, <1%.

Tariff: Item	**Number**	**Normal Trade Relations 12–31–17**
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 asbestos minerals in the United States has decreased during the past several decades, falling from a record high of 803,000 tons in 1973 to an estimated 300 tons in 2017. 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 accounted for nearly all domestic consumption of asbestos minerals in 2017, rising from an estimated 35% in 2010. However, the quantity of asbestos used by the chloralkali industry likely will continue to decline as companies make greater use of nonasbestos diaphragms and membrane cells.

Prepared by **Daniel M. Flanagan [(703) 648–7726, dflanagan@usgs.gov]**

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ASBESTOS

The Frank R. Lautenberg Chemical Safety for the 21st Century Act, which amended the Toxic Substances Control Act of 1976, was signed into law in 2016. The legislation granted the U.S. Environmental Protection Agency (EPA) greater authority to evaluate the hazards posed by new chemicals as well as those already in the marketplace. In 2017, the EPA released a report identifying the end uses, exposure pathways, and environmental and human health hazards that will be considered in the asbestos evaluation. If the agency ultimately determines that asbestos presents an unreasonable risk, it will be required to take mitigating actions.

Brazil accounted for roughly 10% of global asbestos production and consumption during 2017; in November, the Supreme Federal Court enacted a ban on the extraction, commercialization, and use of asbestos throughout the country. Pending further legal action, the only remaining commercial producers will be China, Kazakhstan, Russia, and potentially Zimbabwe, where two former asbestos mines will potentially reopen by yearend. The Government of Ukraine also banned the importation and use of asbestos and asbestos-containing products.

Based on revised production data, estimated worldwide consumption of asbestos minerals decreased from approximately 2 million tons in 2010 to nearly 1.4 million tons in 2016. Comprehensive data for 2017 were not yet available. Asbestos-cement products are expected to continue to be the leading global market for asbestos.

World Mine Production and Reserves: Production of asbestos in Brazil, China, and Russia in 2016 was revised downward based on new information from Government and industry sources. Reserves for Brazil, China, and Russia also were revised based on information from Government and industry sources.

	Mine production		Reserves[5]
	2016	2017[e]	
United States	—	—	Small
Brazil	[e]200,000	150,000	9,800,000
China	[e]200,000	200,000	96,000,000
Kazakhstan	193,000	210,000	Large
Russia	692,000	690,000	110,000,000
World total (rounded)	1,280,000	1,300,000	Large

World Resources: Reliable evaluations of global asbestos resources have not been published recently, and the available information is 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. Substitutes include 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. For the chloralkali industry, membrane cell technology is one alternative to asbestos diaphragms.

[e]Estimated. — Zero.
[1]Additional imports were reported by the U.S. Census Bureau for some years, but bill of lading information from a commercial trade database suggests that some of the shipments were misclassified.
[2]Exports of asbestos reported by the U.S. Census Bureau were 27 tons in 2013, 279 tons in 2014, 517 tons in 2015, 587 tons in 2016, and an estimated 120 tons in 2017. These shipments likely consisted of materials misclassified as asbestos, reexports, and (or) waste products because the United States no longer mines asbestos.
[3]Assumed to equal imports. A significant quantity of asbestos may have been added to company stockpiles in 2016, but information to make a reliable estimate was unavailable.
[4]Defined as imports – exports.
[5]See Appendix C for resource and reserve definitions and information concerning data sources.

U.S. Geological Survey, Mineral Commodity Summaries, January 2018