

BAUXITE AND ALUMINA¹

(Data in thousand metric dry tons unless otherwise specified)

Domestic Production and Use: In 2024, a limited amount of bauxite and bauxitic clay was produced for nonmetallurgical use in Arkansas and Georgia. Production statistics were withheld for bauxite and estimated for alumina to avoid disclosing company proprietary data. In 2024, the reported quantity of bauxite consumed was estimated to be 1.8 million tons, 12% less than that reported in 2023, with an estimated value of about \$54 million. About 76% of the bauxite consumed was refined by the Bayer process for alumina or aluminum hydroxide, and the remainder went to products such as abrasives, cement, chemicals, proppants, and refractories, and as a slag adjuster in steel mills. Alumina production was estimated to be 810,000 tons, 5% less than that in 2023. About 69% of the alumina produced went to primary aluminum smelters, and the remainder went to nonmetallurgical products, such as abrasives, ceramics, chemicals, and refractories.

Salient Statistics—United States:	2020	2021	2022	2023	2024^e
Bauxite:					
Production, mine	W	W	W	W	W
Imports for consumption ²	3,760	3,880	3,630	3,160	2,800
Exports ²	16	13	10	14	13
Stocks, industry, yearend ^{e, 2}	250	200	200	240	250
Consumption:					
Apparent ³	W	W	W	W	W
Reported	3,330	2,790	2,170	2,050	1,800
Price, average unit value of imports, free alongside ship (f.a.s.), dollars per metric ton	30	31	32	31	30
Net import reliance ⁴ as a percentage of apparent consumption	>75	>75	>75	>75	>75
Alumina:					
Production, refinery ^{e, 5}	1,300	1,000	920	850	810
Imports for consumption ⁵	1,340	1,550	1,880	1,360	1,300
Exports ⁵	153	180	174	139	150
Stocks, industry, yearend ⁵	234	202	194	190	180
Consumption, apparent ³	2,530	2,410	2,640	2,080	2,000
Price, average unit value of imports, f.a.s., dollars per metric ton	394	462	518	481	570
Net import reliance ⁴ as a percentage of apparent consumption	49	58	65	59	59

Recycling: None.

Import Sources (2020–23): Bauxite:² Jamaica, 67%; Turkey, 9%; Guyana, 8%; Australia, 6%; and other, 10%. Alumina:⁵ Brazil, 68%; Jamaica, 10%; Australia, 7%; Canada, 5%; and other, 10%.

Tariff:	Item	Number	Normal Trade Relations 12–31–24
	Bauxite, calcined (refractory grade)	2606.00.0030	Free.
	Bauxite, calcined (other)	2606.00.0060	Free.
	Bauxite, crude dry (metallurgical grade)	2606.00.0090	Free.
	Aluminum oxide (alumina)	2818.20.0000	Free.
	Aluminum hydroxide	2818.30.0000	Free.

Depletion Allowance: 22% (domestic), 14% (foreign).

Government Stockpile: None.

Events, Trends, and Issues: In 2024, one domestic alumina refinery produced alumina from imported bauxite. A 1.2-million-ton-per-year alumina refinery in Gramercy, LA, produced alumina for aluminum smelting and specialty-grade alumina. A 500,000-ton-per-year alumina refinery in Burnside, LA, was temporarily shut down in August 2020 and remained idle in 2024. No plans were announced regarding its reopening. The average prices, f.a.s., for U.S. imports for consumption of crude dry bauxite and metallurgical-grade alumina during the first 8 months of 2024 were \$30 per ton and \$560 per ton, 5% less and 12% more than those in the same period in 2023, respectively.

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A United States-based multinational aluminum producer acquired full control of an Australia-based joint-venture that mined bauxite and produced alumina and aluminum globally. An India-based aluminum producer increased production at its newly expanded alumina refinery in Odisha, to 3.5 million tons per year. In Australia, a 2.2-million-ton-per-year alumina refinery located in Western Australia was idled owing to market conditions and operating costs. A fire at a natural gas pipeline in Queensland, Australia, caused an alumina refinery to declare force majeure. An Indonesia-based mining company began production at its 2.2-million-ton-per-year alumina refinery in the Province of West Kalimantan. A 1.7-million-ton-per-year alumina refinery in Ukraine has remained closed since 2022 owing to the Russia-Ukraine conflict.

World Alumina Refinery and Bauxite Mine Production and Bauxite Reserves: Reserves for China, Indonesia, Kazakhstan, Turkey, and Vietnam were revised based on company and Government reports.

	Alumina production ⁵		Bauxite production		Bauxite reserves ⁶
	2023	2024 ^e	2023	2024 ^e	
United States	^e 850	720	W	W	20,000
Australia	18,800	18,000	104,000	100,000	⁷ 3,500,000
Brazil	^e 11,000	11,000	^e 32,000	33,000	2,700,000
Canada	1,500	1,500	—	—	—
China	82,400	84,000	^e 91,000	93,000	680,000
Germany	^e 900	960	—	—	—
Greece	869	860	^e 1,200	1,200	—
Guinea	273	300	123,000	130,000	7,400,000
India	^e 7,500	7,600	23,400	25,000	650,000
Indonesia	^e 1,200	1,300	^e 30,000	32,000	2,800,000
Ireland	1,380	1,600	—	—	—
Jamaica	1,400	1,500	6,000	6,100	2,000,000
Kazakhstan	1,300	1,400	4,560	4,900	280,000
Russia	3,020	2,900	^e 5,800	6,300	480,000
Saudi Arabia	1,830	1,800	^e 5,400	5,800	180,000
Spain	716	820	—	—	—
Turkey	300	320	2,940	3,200	69,000
United Arab Emirates	2,480	2,400	—	—	—
Vietnam	1,490	1,500	^e 3,920	4,200	3,100,000
Other countries	1,300	1,500	5,260	5,700	5,300,000
World total (rounded)	141,000	142,000	⁸ 438,000	⁸ 450,000	29,000,000

World Resources:⁶ Bauxite resources are estimated to be between 55 billion and 75 billion tons, distributed in Africa (32%), Oceania (23%), South America and the Caribbean (21%), Asia (18%), and elsewhere (6%). Domestic resources of bauxite are inadequate to meet long-term U.S. demand, but the United States and most other major aluminum-producing countries have essentially inexhaustible subeconomic resources of aluminum in materials other than bauxite.

Substitutes: Bauxite is the only raw material used in the production of alumina on a commercial scale in the United States. Although currently not economically competitive with bauxite, vast resources of clay are technically feasible sources of alumina. Other raw materials, such as alunite, anorthosite, coal wastes, and oil shales, offer additional potential alumina sources. Synthetic mullite, produced from kaolin, bauxitic kaolin, kyanite, and sillimanite, substitutes for bauxite-based refractories. Silicon carbide and alumina zirconia can substitute for alumina and bauxite in abrasives but cost more.

^eEstimated. W Withheld to avoid disclosing company proprietary data. — Zero.

¹See also the Aluminum chapter. As a general rule, 4 tons of dried bauxite is required to produce 2 tons of alumina, which, in turn, can be used to produce 1 ton of aluminum.

²Includes all forms of bauxite, expressed as dry equivalent weights.

³Defined as production + imports – exports ± adjustments for industry stock changes.

⁴Defined as imports – exports ± adjustments for industry stock changes.

⁵Calcined equivalent weights.

⁶See Appendix C for resource and reserve definitions and information concerning data sources.

⁷For Australia, Joint Ore Reserves Committee-compliant or equivalent reserves were 1.6 billion tons.

⁸Excludes U.S. production.