

CLAYS

(Data in thousand metric tons, unless otherwise noted)

Domestic Production and Use: In 2003, clay and shale production was reported in all States except Alaska, Delaware, Hawaii, Idaho, New Hampshire, New Jersey, Rhode Island, Vermont, and Wisconsin. About 240 companies operated approximately 760 clay pits or quarries. The leading 20 firms supplied about 50% of the tonnage and 79% of the value for all types of clay sold or used in the United States. U.S. production, essentially unchanged from 2002, was about 39.3 million tons and was valued at \$1.6 billion. Major domestic uses for specific clays were estimated to be as follows: ball clay—41% floor and wall tile, 25% sanitaryware, and 34% other uses; bentonite—25% pet waste absorbent, 21% drilling mud, 21% foundry sand bond, 15% iron ore pelletizing, and 18% other uses; common clay—56% brick, 17% cement, 17% lightweight aggregate, and 10% other uses; fire clay—75% refractories and 25% other uses; fuller's earth—74% absorbent uses and 26% other uses; and kaolin—54% paper, 17% refractories, and 29% other uses.

Salient Statistics—United States:¹	1999	2000	2001	2002	2003^e
Production, mine:					
Ball clay	1,200	1,140	1,100	1,120	1,120
Bentonite	4,070	3,760	3,970	3,970	3,970
Common clay	24,800	23,700	23,200	23,000	23,000
Fire clay ²	402	476	383	446	446
Fuller's earth	2,560	2,910	2,890	2,730	2,730
Kaolin	9,160	8,800	8,110	8,010	8,010
Total ³	42,200	40,800	39,600	39,300	39,300
Imports for consumption:					
Artificially activated clay and earth	17	18	21	27	20
Kaolin	57	63	114	158	275
Other	16	16	13	32	50
Total ³	90	96	148	217	325
Exports:					
Ball clay	107	100	174	127	150
Bentonite	719	761	628	722	680
Fire clay ²	189	216	238	251	275
Fuller's earth	152	136	146	60	50
Kaolin	3,310	3,690	3,440	3,350	3,400
Clays, not elsewhere classified	329	357	344	449	420
Total ³	4,800	5,260	4,970	4,960	4,980
Consumption, apparent	37,500	35,600	34,800	34,600	34,600
Price, average, dollars per ton:					
Ball clay	40	42	42	42	42
Bentonite	43	41	42	45	45
Common clay	6	6	6	6	6
Fire clay	16	16	16	24	23
Fuller's earth	90	87	89	90	90
Kaolin	104	106	103	119	119
Stocks, yearend ⁴	NA	NA	NA	NA	NA
Employment, number: ^e					
Mine	1,500	1,500	1,500	1,350	1,300
Mill	5,700	5,800	5,800	5,200	5,100
Net import reliance ⁵ as a percentage of apparent consumption	E	E	E	E	E

Recycling: Insignificant.

Import Sources (1999-2002): Brazil, 61%; United Kingdom, 12%; Mexico, 11%; Canada, 4%; and other, 12%.

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Tariff: Item	Number	Normal Trade Relations 12/31/03
Kaolin and other kaolinitic clays, whether or not calcined	2507.00.0000	Free.
Bentonite	2508.10.0000	Free.
Fuller's and decolorizing earths	2508.20.0000	Free.
Fire clay	2508.30.0000	Free.
Common blue and other ball clays	2508.40.0010	Free.
Other clays	2508.40.0050	Free.
Chamotte or dina's earth	2508.70.0000	Free.
Activated clays and earths	3802.90.2000	2.5% ad val.
Expanded clays and mixtures	6806.20.0000	Free.

Depletion Allowance: Ball clay, bentonite, fire clay, fuller's earth, and kaolin, 14% (Domestic and foreign); clay used in the manufacture of common brick, lightweight aggregate, and sewer pipe, 7.5% (Domestic and foreign); clays used in the manufacture of drain and roofing tile, flower pots, and kindred products, 5% (Domestic and foreign); clay used for alumina and aluminum compounds, 22% (Domestic).

Government Stockpile: None.

Events, Trends, and Issues: The amount of clay and shale sold or used by domestic producers was unchanged in 2003. Imports for consumption increased significantly to an estimated 325,000 tons. Imports of kaolin from Brazil accounted for almost all of this increase. The major sources of imported clay were Brazil (kaolin), Greece (bentonite), Mexico (activated clay), and the United Kingdom (kaolin). Exports increased slightly to 4.98 million tons. Major markets for exported clays, by descending order of tonnage, were Canada, Japan, Mexico, the Netherlands, Finland, and Taiwan.

World Mine Production, Reserves, and Reserve Base: New information resulted in revisions to production estimates in 2002 for Brazil (bentonite and kaolin), the Czech Republic (bentonite and kaolin), Greece (bentonite), and Turkey (bentonite and kaolin). Reserves and reserve base are large in major producing countries, but data are not available.

	Bentonite		Mine production Fuller's earth		Kaolin	
	2002	2003^e	2002	2003^e	2002	2003^e
United States (sales)	3,970	3,970	2,730	2,730	8,010	8,010
Brazil (beneficiated)	175	175	—	—	1,710	1,800
Commonwealth of Independent States (crude)	750	750	—	—	⁶ 5,800	8,000
Czech Republic (crude)	174	200	—	—	3,650	4,000
Germany (sales)	500	500	500	500	3,770	3,800
Greece (crude)	1,150	1,200	—	—	60	60
Italy	500	500	30	30	100	100
Korea, Republic of (crude)	—	—	—	—	2,380	2,850
Mexico	400	400	150	150	680	680
Turkey	559	600	—	—	372	350
United Kingdom (sales)	—	—	140	150	2,400	2,400
Other countries	<u>1,820</u>	<u>1,830</u>	<u>340</u>	<u>335</u>	<u>14,300</u>	<u>13,000</u>
World total (rounded)	10,000	10,100	3,890	3,900	43,200	45,100

World Resources: Resources of all clays are extremely large.

Substitutes: Alternatives, such as calcium carbonate and talc, are available for filler and extender applications.

^eEstimated. E Net exporter. NA Not available. — Zero.

¹Excludes Puerto Rico.

²Refractory uses only.

³Data may not add to total shown because of independent rounding.

⁴Data on stocks are not available and are assumed to be zero for apparent consumption and net import reliance calculations.

⁵Defined as imports – exports + adjustments for Government and industry stock changes.

⁶Uzbekistan produced approximately 5.5 million tons of kaolin in 2001 and 2002.