

FELDSPAR

(Data in thousand metric tons, unless otherwise noted)

Domestic Production and Use: U.S. feldspar production (including aplite) in 1998 had an estimated value of \$40 million. The three largest producers accounted for almost two-thirds of the output, with eight other companies supplying the remainder. Operations in North Carolina provided about 46% of the output and facilities in six other States contributed smaller quantities.

Production of lithium ores and mica yielded moderate quantities of byproduct or coproduct feldspar and feldspar-silica mixtures, and feldspar processors reported coproduct recovery of mica and silica sand.

Feldspar is ground for industry use to about 20 mesh for glassmaking and to 200 mesh or finer for most ceramic and filler applications. It was estimated that feldspar shipments went to at least 30 States and to foreign destinations, including Canada and Mexico. In ceramics and glass, feldspar functions as a flux. Estimated 1998 end-use distribution of domestic feldspar was glass, 70%, and pottery and other, 30%.

Salient Statistics—United States:	1994	1995	1996	1997	1998^e
Production, marketable	765	880	890	^e 900	800
Imports for consumption	7	9	7	9	7
Exports	17	15	10	7	18
Consumption, apparent	755	874	887	^e 900	789
Price, average value, marketable production, dollars per ton	40.78	42.50	44.27	^e 47.22	50.00
Stocks, producer, yearend ¹	NA	NA	NA	NA	NA
Employment, mine and preparation plant, number	400	400	400	400	400
Net import reliance ² as a percent of apparent consumption	E	E	E	(3)	E

Recycling: Insignificant.

Import Sources (1994-97): Mexico, 96%; and other, 4%.

Tariff: Item	Number	Normal Trade Relations (NTR) 12/31/98	Non-NTR⁴ 12/31/98
Feldspar	2529.10.0000	Free	49¢/t.

Depletion Allowance: 14% (Domestic), 14% (Foreign).

Government Stockpile: None.

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Events, Trends, and Issues: Glass containers are a major end use of feldspar, including flint (clear), green, and amber glass. The glass container recycling rate in the United States was an estimated 35% in 1997 (latest available). The recycling rates for amber and green glass are considerably higher than for flint glass, even though flint glass accounts for around 60% of total U.S. container production. Recycled glass (cullet) adds a certain level of impurities to a glass manufacturing batch, in spite of efforts to remove metal caps, ceramics, and other contaminants in the cullet. This places demands on mineral suppliers for higher quality minerals, as flint glass requires more demanding specifications, such as iron content, than colored glass, according to a nongovernment source.

Whiteware, such as sanitaryware, is another major end use of feldspar. Usage of sanitaryware is reflected by activity in the construction market. In western Europe, some countries have had negative growth during this decade. Also, sanitaryware is one of the most labor intensive sectors of ceramics. As a result, there has been investment and relocation of manufacturing sites to eastern Europe where wages are lower and market consumption appears to have potential, according to a nongovernment source.

Turkish output of feldspar has increased from 139,000 tons in 1989 to approximately 1,000,000 tons in 1996 (latest available). Export tonnages made up a major portion, increasing from 49,000 tons in 1989 to 742,000 tons in 1996. Much of the exported material went to ceramic industries in Spain and Italy, although another market area is North Africa, including Egypt, Algeria, and Tunisia, according to a nongovernment source. Other markets are the Middle East, especially Israel, Jordan, and Saudi Arabia, and the Far East, including Indonesia, Malaysia, Taiwan, and the Philippines.

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves and reserve base ⁵
	1997	1998 ^e	
United States	^e 900	800	Significant in the United States and assumed to be similar in other countries.
Brazil	225	230	
Columbia	60	60	
France	550	560	
Germany	360	370	
India	90	90	
Italy	2,300	2,400	
Japan	55	60	
Korea, Republic of	320	330	
Mexico	143	150	
Norway	75	75	
Russia	45	50	
Spain	350	350	
Thailand	660	660	
Turkey	1,000	1,000	
Uzbekistan	70	70	
Venezuela	150	160	
Other countries	697	685	
World total (may be rounded)	8,050	8,100	

World Resources: Identified and hypothetical resources of feldspar are more than adequate to meet anticipated world demand. Quantitative data on resources of feldspar existing in granites, pegmatites, and feldspathic sands generally have not been compiled. There is ample geologic evidence that resources are immense, although not always conveniently accessible to the principal centers of consumption.

Substitutes: Feldspar can be replaced in some of its end uses by feldspar-silica mixtures, clays, talc, pyrophyllite, spodumene, or electric-furnace slag. Imported nepheline syenite, however, was the major alternate material.

^eEstimated. E Net exporter. NA Not available.

¹Change in stocks assumed to be zero for apparent consumption and net import reliance calculations.

²Defined as imports - exports + adjustments for Government and industry stock changes.

³Negligible.

⁴See Appendix B.

⁵See Appendix D for definitions.