FELDSPAR AND NEPHELINE SYENITE

(Data in thousand metric tons unless otherwise specified)

Domestic Production and Use: U.S. feldspar production in 2023 had an estimated value of $60 million. Feldspar was produced by six companies in California, Idaho, North Carolina, and Virginia. Feldspar processors reported joint product recovery of mica and silica sand. One company produced nepheline syenite in the United States as a flux, but production data were not available.

Feldspar is ground to about 20 mesh for glassmaking and to 200 mesh or finer for most ceramic and filler applications. It was estimated that domestically produced feldspar was transported by ship, rail, or truck to at least 30 States and to foreign destinations, including Canada and Mexico. In pottery and glass, feldspar and nepheline syenite function as a flux. Glass manufacturing accounted for an estimated 60% of the 2023 end-use distribution of domestic feldspar and nepheline, and ceramic tile, pottery, and other uses accounted for the remaining 40%.

Salient Statistics—United States:	**2019**	**2020**	**2021**	**2022**	**2023[e]**
Production, feldspar, marketable[1]	[e]450	420	[e]380	[e]540	590
Imports for consumption:					
Feldspar	64	43	169	276	85
Nepheline syenite	508	503	529	484	380
Exports, feldspar	4	3	4	3	6
Consumption, apparent:[1, 2]					
Feldspar only	[e]510	460	[e]550	[e]810	670
Feldspar and nepheline syenite	1,000	960	1,100	1,300	1,200
Price, average unit value, dollars per metric ton:					
Feldspar only, marketable production[e]	107	108	110	104	102
Nepheline syenite, imports	156	163	164	183	200
Employment, mine, preparation plant, and office, number[e]	240	240	220	220	240
Net import reliance[3] as a percentage of apparent consumption:					
Feldspar	12	9	30	34	12
Nepheline syenite	>95	>95	>95	>95	>95

Recycling: Feldspar and nepheline syenite are not recycled by producers; however, glass container producers use cullet (recycled container glass), thereby reducing feldspar and nepheline syenite consumption.

Import Sources (2019–22): Feldspar: Turkey, 93%; Mexico, 5%; Spain, 1%; and other, 1%. Nepheline syenite: Canada, 99%; and other, 1%.

Tariff: Item	**Number**	**Normal Trade Relations 12–31–23**
Feldspar	2529.10.0000	Free.
Nepheline syenite	2529.30.0010	Free.

Depletion Allowance: 14% (domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: In 2023, estimated domestic production and sales of feldspar increased by 9%, and the average unit value decreased by 3% compared with that in 2022. Estimated imports of feldspar and nepheline syenite decreased by 39% compared with those in 2022.

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FELDSPAR AND NEPHELINE SYENITE

In the United States, residential construction, in which feldspar is a raw material commonly used in the manufacture of plate glass, ceramic tiles and sanitaryware, and insulation, decreased by 12% compared with that in 2022 based on data through September. Glass—including beverage containers (more than one-half of the feldspar consumed by the glass industry), plate glass, and fiberglass insulation for housing and building construction—accounted for 60% of end uses of feldspar in the United States.

In March 2023, a Canada-based company completed sales of all issued and outstanding shares of its United States subsidiary based in Idaho. The subsidiary previously produced a feldspathic sand product with low-iron and low-trace-element concentrations from old mine tailings, which was sold to ceramic tile producers.

In November 2023, a Saudi Arabia-based mining company, a Turkey-based industrial raw materials company, and a United Arab Emirates-based mining company signed a letter of intent to establish a closed joint-stock company with the objective to invest in industrial minerals, including feldspar, quartz, silica sands, and various clay minerals, in Saudi Arabia.

World Mine Production and Reserves:[4] Reserves for China, Czechia, Iran, Thailand, and Turkey were revised based on Government reports.

	Mine production[e]		Reserves[5]
	2022	2023	
United States[1]	540	590	NA
Brazil (beneficiated, marketable)	760	760	150,000
China	2,500	2,500	730,000
Czechia	450	450	54,000
India	5,000	5,000	320,000
Iran	2,000	2,000	95,000
Italy	2,200	2,200	NA
Korea, Republic of	851	900	180,000
Mexico	495	460	NA
Pakistan	448	400	NA
Saudi Arabia	550	550	NA
Spain (includes pegmatites)	800	800	NA
Thailand	1,300	1,300	45,000
Turkey	6,100	6,200	720,000
Other countries	2,600	2,600	NA
World total (rounded)	26,600	27,000	Large

World Resources:[5] Identified and undiscovered resources of feldspar are more than adequate to meet anticipated world demand. Quantitative data on resources of feldspar existing in feldspathic sands, granites, and pegmatites generally have not been compiled. Ample geologic evidence indicates that resources are large, although not always conveniently accessible to the principal centers of consumption.

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

[e]Estimated. NA Not available.

[1]Rounded to two significant digits to avoid disclosing company proprietary data.

[2]Defined as production + imports – exports.

[3]Defined as imports – exports.

[4]Feldspar only.

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