FELDSPAR AND NEPHELINE SYENITE

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: U.S. feldspar production in 2020 had an estimated value of $45 million. Three leading companies mined and processed about 80% of production; four other companies supplied the remainder. The five leading producing States, in alphabetical order, were California, Idaho, North Carolina, Oklahoma, and Virginia. Feldspar processors reported joint product recovery of mica and silica sand. Nepheline syenite produced in the United States was not included in production figures because the material was not considered to be marketable as a flux and was mostly used in construction applications.

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. The estimated 2020 end-use distribution of domestic feldspar and nepheline syenite was glass, about 65%, and ceramic tile, pottery, and other uses, 35%.

Salient Statistics—United States:	**2016**	**2017**	**2018**	**2019**	**2020[e]**
Production, marketable[1]	480	440	550	450	420
Imports for consumption:					
Feldspar	37	290	181	64	68
Nepheline syenite	572	1,460	1,070	508	500
Exports, feldspar	6	5	4	4	3
Consumption, apparent:[1, 2]					
Feldspar only	510	730	730	510	490
Feldspar and nepheline syenite	1,100	2,200	1,800	1,000	990
Price, average value, dollars per ton:					
Feldspar only, marketable production	69	64	97	107	110
Nepheline syenite, import value	128	61	76	156	160
Employment, mine, preparation plant, and office, number[e]	250	240	240	240	240
Net import reliance[3] as a percentage of apparent consumption:					
Feldspar	6	39	24	12	13
Nepheline syenite	100	100	100	100	100

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 (2016–19): Feldspar: Turkey, 98%; and other, 2%. Nepheline syenite: Canada, 100%.

Tariff: **Item**	**Number**	**Normal Trade Relations 12–31–20**
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 2020, domestic production and sales of feldspar decreased by almost 7%, and the average unit value of sales was about the same as that of 2019. When compared to 2019, imports of feldspar increased by about 6% and nepheline syenite imports decreased slightly in 2020. Imports of nepheline syenite reported by the U.S. Census Bureau in 2017 and 2018 were unusually high.

Domestic feldspar consumption has been gradually shifting toward glass from ceramics. A growing segment in the glass industry was solar glass, used in the production of solar panels. 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—continued to be the leading end use of feldspar in the United States.

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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, increased by 5% during the first 10 months of 2020 compared with the same period in 2019. Production and sales of feldspar are expected to increase over the next few years, owing in part to low mortgage interest rates and increased demand for single-family homes as the global COVID-19 pandemic made multifamily homes less desirable.

A company based in Canada continued development of a feldspar-quartz-kaolin project in Idaho that contained high-grade potassium feldspar. Production was expected to be about 30,000 tons per year of potassium feldspar during a 25-year mine life. For several years, the operation has produced a low-iron and trace-element feldspathic sand product from old mine tailings, which was sold to ceramic tile producers.

World Feldspar Mine Production and Reserves:[4] Reserves data for the Republic of Korea were revised based on Government information.

	Mine production		Reserves[5]
	2019	2020[e]	
United States[1]	450	420	NA
Brazil (beneficiated marketable)	300	300	150,000
China	2,000	2,000	NA
Czechia	441	460	23,000
Egypt	400	400	1,000,000
Germany	260	260	NA
India	4,000	4,000	320,000
Iran	750	1,300	630,000
Italy	4,000	4,000	NA
Korea, Republic of	620	400	180,000
Malaysia	202	200	NA
Mexico	210	210	NA
Russia	290	290	NA
Saudi Arabia	210	210	NA
Spain (includes pegmatites)	800	800	NA
Thailand	1,200	1,200	240,000
Turkey	5,500	5,000	240,000
Other countries	1,320	1,500	NA
World total (rounded)	23,000	23,000	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.