LIME[1]

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2019, an estimated 18 million tons of quicklime and hydrate was produced (excluding independent commercial hydrators[2]), valued at about $2.4 billion. At yearend, 28 companies were producing lime, which included 18 companies with commercial sales and 10 companies that produced lime strictly for internal use (for example, sugar companies). These companies had 74 primary lime plants (plants operating quicklime kilns) in 28 States and Puerto Rico. Six of these 28 companies operated only hydrating plants in 11 States. In 2019, the five leading U.S. lime companies produced quicklime or hydrate in 21 States and accounted for about 80% of U.S. lime production. Principal producing States were, in alphabetical order, Alabama, Kentucky, Missouri, Ohio, and Texas. Major markets for lime were, in descending order of consumption, steelmaking, chemical and industrial applications (such as the manufacture of fertilizer, glass, paper and pulp, and precipitated calcium carbonate, and in sugar refining), flue gas treatment, construction, water treatment, and nonferrous mining.

Salient Statistics—United States:	**2015**	**2016**	**2017**	**2018**	**2019[e]**
Production[3]	18,300	17,300	17,600	18,100	18,000
Imports for consumption	391	376	367	370	360
Exports	346	329	391	422	350
Consumption, apparent[4]	18,300	17,300	17,600	18,000	18,000
Quicklime average value, dollars per ton at plant	121.50	121.00	122.10	124.60	124.00
Hydrate average value, dollars per ton at plant	146.40	145.50	147.10	151.50	151.00
Employment, mine and plant, number	NA	NA	NA	NA	NA
Net import reliance[5] as a percentage of apparent consumption	<1	<1	E	E	<1

Recycling: Large quantities of lime are regenerated by paper mills. Some municipal water-treatment plants regenerate lime from softening sludge. Quicklime is regenerated from waste hydrated lime in the carbide industry. Data for these sources were not included as production in order to avoid duplication.

Import Sources (2015–18): Canada, 93%; Mexico, 6%; and other, 1%.

Tariff: Item	**Number**	**Normal Trade Relations 12–31–19**
Calcined dolomite	2518.20.0000	3% ad val.
Quicklime	2522.10.0000	Free.
Slaked lime	2522.20.0000	Free.
Hydraulic lime	2522.30.0000	Free.

Depletion Allowance: Limestone produced and used for lime production, 14% (Domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: In 2019, domestic lime production was estimated to have remained essentially unchanged from that of 2018. In 2018, one sugar cooperative finalized its decision to close the sugar beet facility in Torrington, WY, in 2019, thereby removing one quicklime kiln from production. Another company sold its quicklime and hydrate production plant in Calera, AL, which reduced the number of companies producing lime. As a result, the total number of operating quicklime plants remained at 74 in 2019. Hydrated lime is a dry calcium hydroxide powder made from reacting quicklime with a controlled amount of water in a hydrator. It is used in chemical and industrial, construction, and environmental applications. In 2019, the leading uses of hydrated lime were chemical and industrial, and construction applications; flue gas desulfurization; and water treatment.

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LIME

World Lime Production and Limestone Reserves:

	Production[e, 6]		Reserves[7]
	2018	2019	
United States	18,100	18,000	Adequate for all countries listed.
Australia	2,000	2,100	
Belgium[8]	1,330	1,300	
Brazil	8,300	8,400	
Bulgaria	1,500	1,500	
Canada (shipments)	1,810	1,800	
China	300,000	300,000	
Czechia	1,040	1,100	
France	2,600	2,600	
Germany	7,000	7,100	
India	16,000	16,000	
Iran	3,300	3,300	
Italy[8]	3,600	3,600	
Japan (quicklime only)	7,580	7,600	
Kazakhstan	1,050	1,100	
Korea, Republic of	5,200	5,200	
Malaysia	1,600	1,600	
Poland (hydrated and quicklime)	2,680	2,700	
Romania	2,210	2,200	
Russia (industrial and construction)	11,100	11,000	
Slovenia	1,060	1,200	
South Africa	1,200	1,200	
Spain	1,820	1,800	
Turkey	4,700	4,700	
Ukraine	2,100	2,100	
United Kingdom	1,400	1,400	
Other countries	13,400	14,000	
World total (rounded)	424,000	430,000	

World Resources: Domestic and world resources of limestone and dolomite suitable for lime manufacture are very large.

Substitutes: Limestone is a substitute for lime in many applications, such as agriculture, fluxing, and sulfur removal. Limestone, which contains less reactive material, is slower to react and may have other disadvantages compared with lime, depending on the application; however, limestone is considerably less expensive than lime. Calcined gypsum is an alternative material in industrial plasters and mortars. Cement, cement kiln dust, fly ash, and lime kiln dust are potential substitutes for some construction uses of lime. Magnesium hydroxide is a substitute for lime in pH control, and magnesium oxide is a substitute for dolomitic lime as a flux in steelmaking.

[e]Estimated. E Net exporter, NA Not available.

[1]Data are for quicklime, hydrated lime, and refractory dead-burned dolomite. Includes Puerto Rico.

[2]To avoid double counting quicklime production, excludes independent commercial hydrators that purchase quicklime for hydration.

[3]Sold or used by producers.

[4]Defined as production + imports – exports. Includes some double counting based on nominal, undifferentiated reporting of company export sales as U.S. production.

[5]Defined as imports – exports.

[6]Only countries that produced 1 million tons of lime or more are listed separately.

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

[8]Includes hydraulic lime.