

GYPSUM

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2017, domestic mine production of crude gypsum was estimated to be 17.5 million tons with a value of about \$144 million. The leading crude gypsum-producing States were, in descending order, Nevada, Oklahoma, Texas, Kansas, Iowa, and Colorado, which together accounted for 66% of total mine output. Overall, 47 companies produced or processed gypsum in the United States at 50 mines in 16 States. Approximately 400 synthetic gypsum producers synthesized an estimated 32 million tons of flue-gas desulfurization (FGD) gypsum in 2017. Of the total quantity of FGD gypsum produced, approximately one-half is used in gypsum end-use products, most of which is wallboard. The vast majority of domestic consumption, which totaled approximately 38.3 million tons, was accounted for by manufacturers of wallboard and plaster products. An estimated 7.2 million tons of gypsum was used in cement production and in agricultural applications. Small quantities of high-purity gypsum, used in a wide range of industrial processes, accounted for the remaining tonnage. At the beginning of 2017, the production capacity of operating wallboard plants in the United States was about 33.4 billion square feet¹ per year. Total wallboard sales were estimated to be 25.0 billion square feet.

Salient Statistics—United States:	2013	2014	2015	2016	2017^e
Production:					
Crude ²	15,700	16,200	16,600	17,000	17,500
Synthetic ³	10,800	15,200	16,000	16,500	16,000
Calcined ⁴	15,200	15,300	15,600	17,100	17,500
Wallboard products sold (million square feet ¹)	21,800	21,500	22,100	24,700	25,000
Imports, crude, including anhydrite	3,290	3,720	4,030	4,340	4,800
Exports, crude, not ground or calcined	142	67	63	42	34
Consumption, apparent ⁵	29,700	35,000	36,500	37,800	38,300
Price:					
Average crude, f.o.b. mine, dollars per metric ton	7.50	8.00	7.80	8.00	8.20
Average calcined, f.o.b. plant, dollars per metric ton	25.00	27.00	28.00	30.00	31.00
Employment, mine and calcining plant, number ^e	4,500	4,500	4,500	4,500	4,500
Net import reliance ⁶ as a percentage of apparent consumption	12	11	11	11	12

Recycling: Approximately 700,000 tons of gypsum scrap was generated by wallboard manufacturing and was recycled onsite. The recycling of wallboard from new construction and demolition sources also took place, although those amounts are unknown. Recycled gypsum was used primarily for agricultural purposes and feedstock for the manufacture of new wallboard. Other potential markets for recycled gypsum include athletic field marking, cement production as a stucco additive, grease absorption, sludge drying, and water treatment.

Import Sources (2013–16): Mexico, 42%; Canada, 30%; Spain, 27%; and other, 1%.

Tariff:	Item	Number	Normal Trade Relations
	Gypsum; anhydrite	2520.10.0000	<u>12–31–17</u> Free.

Depletion Allowance: 14% (Domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: U.S. gypsum production and apparent consumption increased slightly compared with those of 2016. The world's leading gypsum producer, China, produced more than seven times the amount produced in the United States, the second-ranked gypsum producer. Iran, ranked third in world production, supplied much of the gypsum needed for construction in the Middle East. Spain, the leading producer in Europe, ranked seventh in the world and supplied crude gypsum and gypsum products to much of Western Europe. Increased use of wallboard in Asia, coupled with new gypsum product plants, spurred increased production in that region. As wallboard becomes more widely used in other regions and as environmental regulations for FGD expand at coal-fired powerplants, worldwide production of gypsum is expected to increase.

Demand for gypsum depends principally on the strength of the construction industry, particularly in the United States where the majority of gypsum consumed is used for building plasters, the manufacture of portland cement, and wallboard products. If the construction of wallboard manufacturing plants designed to use synthetic gypsum from

GYPSUM

FGD units as feedstock continues, this could result in less mining of natural gypsum. The availability of inexpensive natural gas, however, may limit the additional construction of FGD units and, therefore, the use of synthetic gypsum in wallboard. Gypsum imports increased by 11% compared with those of 2016. Exports, although very low compared to imports and often subject to wide fluctuations, decreased by 19%.

World Mine Production and Reserves: Reserves for Brazil, Turkey, and the United Kingdom were revised based on Government and industry information.

	Mine production		Reserves ⁷
	2016	2017 ^e	
United States	17,000	17,500	700,000
Algeria	2,130	2,100	NA
Argentina	1,500	1,500	NA
Australia	2,580	2,600	NA
Brazil	3,400	3,400	400,000
Canada	1,630	1,600	450,000
China	130,000	130,000	NA
Egypt	2,200	2,200	NA
France	3,280	3,300	NA
Germany	1,800	1,800	NA
India	3,500	3,500	39,000
Iran	16,000	16,000	1,600
Italy	8,550	8,600	NA
Japan	4,670	4,700	NA
Mexico	5,380	5,400	NA
Oman	6,050	6,000	4,900
Pakistan	1,660	1,700	NA
Russia	4,400	4,400	NA
Saudi Arabia	1,860	1,900	NA
Spain	7,000	7,000	NA
Thailand	11,300	11,000	NA
Turkey	9,000	9,000	170,000
United Kingdom	1,200	1,200	30,000
Other countries	<u>15,000</u>	<u>15,000</u>	<u>NA</u>
World total (rounded)	261,000	260,000	Large

World Resources: Reserves are large in major producing countries, but data for most are not available. Domestic gypsum resources are adequate but unevenly distributed. Large imports from Canada augment domestic supplies for wallboard manufacturing in the United States, particularly in the eastern and southern coastal regions. Imports from Mexico supplement domestic supplies for wallboard manufacturing along portions of the U.S. western seaboard. Large gypsum deposits occur in the Great Lakes region, the midcontinent region, and several Western States. Foreign resources are large and widely distributed; 81 countries produced gypsum in 2017.

Substitutes: In such applications as stucco and plaster, cement and lime may be substituted for gypsum; brick, glass, metallic or plastic panels, and wood may be substituted for wallboard. Gypsum has no practical substitute in the manufacturing of portland cement. Synthetic gypsum generated by various industrial processes, including FGD of smokestack emissions, is very important as a substitute for mined gypsum in wallboard manufacturing, cement production, and agricultural applications (in descending order by tonnage). In 2017, synthetic gypsum accounted for approximately 50% of the total domestic gypsum supply.

^eEstimated. NA Not available.

¹The standard unit used in the U.S. wallboard industry is square feet; multiply square feet by 9.29×10^{-2} to convert to square meters. Source: The Gypsum Association.

²Crude production was revised for 2013–16 to account for the previously underreported quantity of gypsum used in the production of cement.

³Data refer to the quantity sold or used, not produced.

⁴From domestic crude and synthetic.

⁵Defined as crude production + total synthetic reported used + imports – exports.

⁶Defined as imports – exports.

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