

GYPSUM

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2016, domestic production of crude gypsum was estimated to be 15.5 million tons with a value of about \$140 million. The leading crude gypsum-producing States were, in descending order, Oklahoma, Nevada, Texas, Kansas, Arkansas, and Iowa, which together accounted for 76% of total output. Overall, 47 companies produced or processed gypsum in the United States at 50 mines in 16 States. The vast majority of domestic consumption, which totaled approximately 37.1 million tons, was accounted for by manufacturers of wallboard and plaster products. Approximately 7.2 million tons of gypsum was used in cement production and in agricultural applications, and small quantities of high-purity gypsum, used in a wide range of industrial processes, accounted for the remaining tonnage. At the beginning of 2016, the production capacity of operating wallboard plants in the United States was about 33 billion square feet¹ per year. Total production was 22.5 billion square feet.

Salient Statistics—United States:	2012	2013	2014	2015	2016^e
Production:					
Crude	12,800	14,400	14,900	15,200	15,500
Synthetic ²	12,100	10,800	15,200	16,000	17,000
Calcined ³	12,800	14,600	14,700	15,000	15,500
Wallboard products sold (million square feet ¹)	18,900	21,800	21,500	22,100	22,500
Imports, crude, including anhydrite	3,250	3,290	3,720	4,030	4,640
Exports, crude, not ground or calcined	408	142	67	63	46
Consumption, apparent ⁴	27,800	28,400	33,700	35,200	37,100
Price:					
Average crude, f.o.b. mine, dollars per metric ton	8.16	7.60	8.90	8.90	9.00
Average calcined, f.o.b. plant, dollars per metric ton	28.70	27.60	29.80	30.86	31.00
Employment, mine and calcining plant, number ^e	4,500	4,500	4,500	4,500	4,500
Net import reliance ⁵ as a percentage of apparent consumption	12	12	11	11	12

Recycling: Some of the more than 4 million tons of gypsum scrap that was generated by wallboard manufacturing, wallboard installation, and building demolition was recycled. The 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 (2012–15): Mexico, 43%; Canada, 32%; Spain, 25%; and other, less than 1%.

Tariff:	Item	Number	Normal Trade Relations
	Gypsum; anhydrite	2520.10.0000	<u>12–31–16</u> Free.

Depletion Allowance: 14% (Domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: U.S. gypsum production increased slightly compared with that of 2015. Apparent consumption also increased by 5% compared with that of 2015. The world's leading gypsum producer, China, produced more than eight times the amount produced in the United States. Iran, ranked second in world production, supplied much of the gypsum needed for construction in the Middle East. Spain, the leading European producer, 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, 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 coal flue gas desulfurization (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 15% compared with those of 2015. Exports, although very low compared with imports and often subject to wide fluctuations, decreased by 27%.

GYPSUM

World Mine Production and Reserves:

	Mine production		Reserves ⁶
	<u>2015</u>	<u>2016^e</u>	
United States	15,200	15,500	700,000
Algeria	2,130	2,300	NA
Argentina	1,500	1,500	NA
Australia	2,580	2,600	NA
Brazil	3,300	3,300	290,000
Canada	1,630	1,600	450,000
China	130,000	130,000	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	6,500	4,900
Pakistan	1,660	1,700	NA
Russia	4,400	4,000	NA
Saudi Arabia	1,860	1,900	NA
Spain	7,000	7,000	NA
Thailand	11,200	12,000	NA
Turkey	12,600	13,000	NA
United Kingdom	1,200	1,200	NA
Other countries	<u>15,800</u>	<u>16,000</u>	<u>NA</u>
World total (rounded)	261,000	263,000	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 2016.

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 from 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 2016, 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.

²Data refer to the amount sold or used, not produced.

³From domestic crude and synthetic.

⁴Defined as crude production + total synthetic reported used + imports – exports.

⁵Defined as imports – exports.

⁶See [Appendix C](#) for resource and reserve definitions and information concerning data sources.