

# GYPSUM

By Donald W. Olson

**Domestic survey data and tables were prepared by Virginia C. Harper, statistical assistant, and the world production table was prepared by Regina R. Coleman, international data coordinator.**

Gypsum is one of the most widely used minerals in the world. In the United States, most gypsum is used to manufacture wallboard for homes, offices, and commercial buildings. An average new American home contains more than 7 metric tons (t) of gypsum (Mineral Information Institute, 1994). Worldwide, gypsum is used in portland cement, which is in concrete for highways, bridges, buildings, and many other structures that are part of our everyday life. Also, gypsum is used extensively as a soil conditioner on large tracts of land in suburban areas and in agricultural regions.

The gypsum industry in the United States was distinguished by several notable developments in 1999. Strong demand for gypsum products in the construction industry drove mine production and domestic consumption to record highs, surpassing the previous records set in 1998. Synthetic gypsum generated by various industrial processes continued to increase as a raw material source for wallboard plants. Leading wallboard producers completed construction of five new wallboard plants that will use only synthetic gypsum. The expansion of seven existing wallboard plants was completed in 1999, in response to record-high market demand. Increased wallboard demand and production capacity, as well as greater use of synthetic gypsum, also characterized the gypsum industry in other parts of the world during the year.

Gypsum industry data for this report are collected by the U.S. Geological Survey (USGS) from semiannual and annual surveys of gypsum operations and are derived from monthly statistics provided by the Gypsum Association in Washington, DC. The 1999 USGS survey, which canvassed 112 gypsum production operations, accounting for almost all domestic output, had a response rate of 88%. The output of producers who did not respond to the survey was estimated from their survey responses in previous years or from other sources familiar with the gypsum industry.

## Production

The United States continued to lead the world in gypsum production in 1999, accounting for 21% of reported global output. During 1999, domestic output of crude gypsum rose to a record high of 22.4 million metric tons (Mt) valued at \$157 million (table 1).

Crude gypsum was mined in the United States by 35 companies at 61 mines in 20 States. Most of the gypsum, however, was mined by only 4 companies with 25 mines. The top producing States were, in descending order, Oklahoma, California, Iowa, Texas, Nevada, Michigan, and New Mexico. These States, with 37 mines, each produced more than 1 Mt

and together accounted for 75% of total domestic output (table 2).

The U.S. gypsum industry consisted primarily of a few large, vertically integrated companies that mined gypsum and manufactured wallboard, plaster, and other gypsum products. Companies with the most mines were U.S. Gypsum Co., 9; Georgia-Pacific Corp., 8; National Gypsum Co., 7; Harrison Gypsum Inc., 3; and James Hardie Gypsum, 3. These companies produced almost 60% of total U.S. crude gypsum. The 10 largest gypsum mines in the United States accounted for 39% of domestic output in 1999. These mines, owned by six companies, had an average output of 878,000 t.

During 1999, gypsum was "calcined" (partially dehydrated by heating) at 64 plants operated by 10 companies in 28 States, principally to produce feedstock for wallboard and plaster plants. The leading States were, in descending order, Nevada, California, Iowa, Texas, New York, Florida, and New Hampshire. These States, with 27 plants, each produced more than 1.2 Mt and together accounted for more than one-half of national output (table 3).

Companies with the most calcining plants were U.S. Gypsum, 21; National Gypsum, 18; Georgia-Pacific, 10; and Celotex Corp., 4. These companies produced 74% of national output. The largest 10 calcining plants in the United States accounted for 37% of production in 1999. These plants, owned by five companies, had an average output of more than 817,000 t.

In addition to mined gypsum, synthetic gypsum is generated as a byproduct by various industrial processes. The primary source of synthetic gypsum is flue gas desulfurization (FGD) at coal-fired electric powerplants. Smaller amounts of synthetic gypsum are derived from acid neutralization processes. Synthetic gypsum was used as a substitute for mined gypsum, principally for wallboard manufacturing, agricultural purposes, and cement production. In response to USGS surveys, seven companies operating in eight States reported that approximately 720,000 t of synthetic gypsum generated by industrial processes at their plants was sold or used for such applications in 1999. In addition to these companies, about 80 domestic coal-fired electric utilities generated more than 22.3 Mt of FGD gypsum during 1999 (Sam Tyson, American Coal Ash Association, written commun., 2000). Only 4.5 Mt of the FGD gypsum generated during the year was used, primarily for wallboard production. Use of FGD gypsum has been increasing in recent years and grew by nearly 79% during 1999 (Kalyoncu, 2000).

During 1999, 11 companies manufactured gypsum wallboard at 78 plants in the United States. In response to the growing

demand, plant production capacity was expanded by 10%, to 31.6 billion square feet (2.94 billion square meters), by yearend (Gypsum Association, 2000). Plans for additional capacity increases were announced by several leading producers, including National Gypsum and U.S. Gypsum (Sharpe, 2000). Wallboard shipments set a new record, 28.7 billion square feet (2.67 billion square meters), greater than 98% of production capacity.

Eleven new wallboard plants, which are currently in planning or construction stages, will be completed by yearend 2001. Manufacturing capacity was expanded at seven existing plants in 1999. All the new plants were scheduled to be operational by the end of 2001. The total domestic wallboard capacity will increase by as much as 30% (Henkels, 1999). All but one of the new plants will use only FGD gypsum generated by electric utilities as their raw material. Some gypsum companies were planning to expand FGD gypsum use at existing wallboard plants as well. At least a dozen wallboard plants in the United States were already using some synthetic gypsum to augment their feedstock from gypsum mines.

A portion of more than 4 Mt of gypsum waste, generated every year by wallboard manufacturing, wallboard installation, and building demolition, was recycled. The recycled gypsum was used chiefly for agricultural purposes and new wallboard (Turley, 1998; Integrated Waste Management Board, December 1997, Drywall recycling, Publication 431-95-069, accessed July 1, 1999, at URL <http://www.ciwmb.ca.gov/condemo/factsheets/drywall.htm>).

## Consumption

In 1999, the boom in the construction of new homes, commercial buildings, and office buildings stimulated wallboard demand and boosted gypsum consumption in the United States to record highs. Apparent domestic consumption (defined as mine output plus net imports, industry stock changes, and synthetic use) was about 37 Mt during the year. Domestic sources (mining plus an estimated 5.2 Mt of synthetic gypsum) met about three-quarters of domestic consumption requirements; imports satisfied the remaining needs.

Gypsum output is categorized as either calcined or uncalcined (table 4). Calcined gypsum was produced domestically from crude gypsum to manufacture wallboard and plaster products during 1999. Uncalcined gypsum, used for portland cement production and agriculture, accounted for virtually all remaining consumption during the year.

In 1999, 52% of the calcined gypsum used to manufacture wallboard was consumed in the production of regular ½-inch wallboard. Fire-resistant wallboard, mobile-home board, water- and moisture-resistant board, lath, veneer base, and sheathing composed almost all the balance (table 5). Metropolitan areas in the Atlantic and the Pacific coastal regions were the leading sales areas for gypsum wallboard products.

During 1999, most of the uncalcined gypsum consumed in the United States was used in portland cement production, and the remainder was used primarily in agriculture. Gypsum, which is added to cement to retard its setting time, comprised

about 2% to 5% of cement output (Dutton, 1997). Finely ground gypsum rock was used in agriculture and other industries to neutralize sodic soils, to improve soil permeability, to add nutrients, to stabilize slopes, and to provide catalytic support for maximum fertilizer benefits. Small amounts of high-purity gypsum also were used in a wide range of industrial operations, including the production of glass, paper, foods, and pharmaceuticals.

## Prices

In 1999, the average values per ton (f.o.b. mine or plant) reported by U.S. producers were \$6.99 for crude gypsum and \$17.07 for calcined gypsum. The average value reported by domestic producers for plaster during the year was about \$7.60 per 100 pounds. In 1999, the average value of gypsum use uncalcined in agriculture and in cement production was approximately \$11.70 per metric ton.

During 1999, prices for gypsum wallboard increased in response to increased demand and supply shortages. Prices for regular ½-inch wallboard rose in 19 of the 20 major U.S. metropolitan areas that were sampled. The price increases during 1999 ranged from \$2 to \$104 per 1,000 square feet. Prices in the 20 U.S. cities ranged from \$93 to \$335 per 1,000 square feet by yearend (Engineering News Record, 1999 a, b).

## Foreign Trade

In 1999, the United States was the world leader in the international trade of gypsum and gypsum products. Crude gypsum was imported from 15 countries, and gypsum wallboard was exported to 66 countries and territories (table 6). The imports accounted for most of the world's waterborne shipment of crude gypsum (Phillips, 1998). Only a small amount of crude gypsum was exported by the United States (table 7).

Net imports of crude gypsum in 1999, which increased 8% over those of 1998, accounted for about one-quarter of apparent consumption. Much of this import dependence can be attributed to the lack of adequate domestic gypsum resources near large east coast wallboard markets. These imports came primarily from Canada and Mexico. The two countries primarily supplied wallboard plants in coastal markets; most imports from Canada went to east coast plants, and Mexican sources chiefly served the west coast. Foreign subsidiaries of U.S. gypsum companies produced much of the gypsum that was imported for the wallboard plants. Smaller amounts of imported gypsum were used in portland cement production.

Wallboard exports, totaling about 62 million square feet (5.8 million square meters) and valued at \$23 million, were primarily to countries and territories in Asia, Europe, and Latin America. Wallboard imports were about 2.03 billion square feet (189 million square meters) valued at \$294 million.

## World Review

Although more than 90 countries produced gypsum in 1999, just 6 of them accounted for 60% of the total world production

(table 8). Global gypsum production during 1999 is estimated to have been at least 107 Mt. More than 100 Mt of synthetic gypsum is generated worldwide each year (Roskill Information Services, 1997). The high demand generated for gypsum in the United States by the booming domestic construction industry apparently was not matched abroad, except in Mexico, which also exports to U.S. markets. The estimate for world production, however, probably is low because output that is used by the gypsum producers in some countries to make other products on-site was not reported. Moreover, production from small deposits in developing nations was intermittent and in many cases unreported.

As a low-value, high-bulk commodity drawn from deposits widely distributed throughout the world, gypsum tended to be consumed within the many countries that mine it. Less than 20% of the world's crude gypsum production was estimated to enter international trade. Only a few countries, such as Spain and Thailand, were major exporters. Australian exports were expected to grow as the development of a new mine at the world's largest known gypsum deposit on that country's west coast reaches full capacity (Dickson, 1999). The proximity of large U.S. wallboard markets also has made Canada and Mexico significant gypsum exporters.

Although use of gypsum wallboard increased worldwide, only industrialized nations, such as the United States, used gypsum primarily for wallboard products. In developing countries (especially in the Middle East and Asia), most gypsum was used in the production of cement or as a plaster product.

Estimated world production capacity for gypsum wallboard in 1999 was at least 60 billion square feet (about 5.6 billion square meters) at more than 250 plants worldwide. About one-half of this capacity was in the United States, and Asia and Western Europe each accounted for about one-fifth. Plans to construct or expand dozens of wallboard plants were underway during the year in many countries throughout the world, including Brazil, Chile, China, Germany, India, Poland, and the United Kingdom (Ambolt, 1999; Dickson, 1999; Mullick, 1999).

As in the United States, the use of FGD gypsum by other industrialized nations increased, particularly in Japan and Western Europe (Dickson, 1999). Japan probably led the world in FGD gypsum consumption, and FGD gypsum accounted for about one-third of gypsum products sold in Western Europe (Gypsum, Lime & Building Products, 1998; White, 1998).

## Outlook

Early evidence, such as building permits and housing starts, suggests that U.S. production and consumption records set for gypsum during 1999 will be at least matched in 2000. Other supply-and-demand indicators that favor more gypsum industry growth include record-high construction rates for new office and commercial buildings, as well as the continuing trend to construct larger homes with more rooms. As the Transportation Equity Act for the 21<sup>st</sup> Century (Public Law 105-178, enacted June 9, 1998), authorizing \$219 billion for road building and repair through 2003, is further implemented,

it will be an important stimulant for the domestic cement industry and for the use of gypsum in cement.

During the next several years, the use of mined gypsum may decline significantly in the United States as greater quantities of synthetic gypsum supplant it in wallboard manufacturing. Some actual and planned mine closings already have been attributed to substitution by synthetic gypsum (Gersten, 1999). At least an additional 6 billion square feet (about 560 million square meters) of new wallboard capacity designed for FGD gypsum feedstock is scheduled to come on-line by 2002 (Henkels, 1999). This rate of substitution seems likely to accelerate additional mine closings during the next decade.

Industry trends also indicate significant developments abroad in the coming decade. For example, the pace and magnitude of wallboard plant construction in China indicates that China, with more than 1 billion potential consumers, could become one of the world's leading gypsum wallboard markets. Elsewhere, the extent of wallboard capacity growth in regions of Asia, Europe, and Latin America reveals that wallboard manufacturing is likely to become a more significant consumer of gypsum worldwide.

## References Cited

- Ambolt, Lawrence, 1999, The European plasterboard industry: Gypsum, Lime & Building Products, April, p. 10-13.
- Dickson, Ted, 1999, Gypsum, Metals and minerals annual review—1998: Mining Journal, p. 119.
- Dutton, John, 1997, Global growth for gypsum: Gypsum, Lime & Building Products, April, 2 p.
- Engineering News-Record, 1999a, Construction economics: Engineering News-Record, v. 242, no. 3, January 18, p. 37-38.
- 1999b, Construction economics: Engineering News-Record, v. 243, no. 24, December 20, p. 147-148.
- Gersten, Alan, 1999, US housing boost for gypsum: Mining Finance, issue 15, June, p. 32.
- Gypsum Association, 2000, Annual gypsumboard shipments & industry capacity: Washington, DC, Gypsum Association, January, 1 p.
- Gypsum, Lime & Building Products, 1998, Strengthening market for gypsum-based products: Gypsum, Lime & Building Products, April, p. 5.
- Henkels, P.J., 1999, Synthetic gypsum use in wallboard: 1999 SME Annual Meeting and Exhibit, Denver, March 1-3, handout, 5 p.
- Kalyoncu, R.S., 2000, Coal combustion products—1999 annual review: U.S. Geological Survey Mineral Industry Surveys, December, 13 p. [Prepared for publication in 2000 U.S. Geological Survey Minerals Yearbook.]
- Mineral Information Institute, 1994, Look around... everything is made from something [poster]: Denver, Mineral Information Institute, 1 p.
- Mullick, A.K., 1999, Gypsum in India: Gypsum, Lime & Building Products, April, p. 22-29.
- Phillips, Keri, 1998, Buoyant global demand: International Bulk Journal, February, p. 55-59.
- Roskill Information Services, 1997, The economics of gypsum and anhydrite (7th ed.): London, Roskill Information Services, p. 19.
- Sharpe, R.D., 2000, Gypsum: Mining Engineering, v. 52, no. 6, June, p. 42-44.
- Turley, William, 1998, What's happening in gypsum recycling: C&D Debris Recycling, v. 5, no. 1, January/February, p. 8-12.
- White, Davina, 1998, Gypsum supply—Building on firm foundations: Industrial Minerals, no. 364, January, p. 27-43.

## GENERAL SOURCES OF INFORMATION

### U.S. Geological Survey Publications

Coal combustion products. Ch. in Minerals Yearbook, annual.

Gypsum. Ch. in Mineral Commodity Summaries, annual.<sup>1</sup>  
Gypsum. Mineral Industry Surveys, monthly.<sup>1</sup>  
Gypsum. Ch. in United States Mineral Resources, Professional  
Paper 820, 1973.

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<sup>1</sup>Prior to January 1996, published by the U.S. Bureau of Mines.

#### **Other**

Gypsum Association, Washington, DC.  
Gypsum. Ch. in Mineral Facts and Problems, U.S. Bureau of  
Mines Bulletin 675, 1985.

TABLE 1  
SALIENT GYPSUM STATISTICS 1/

(Thousand metric tons and thousand dollars)

	1995	1996	1997	1998	1999
United States:					
Crude:					
Mined	16,600	17,500	18,600	19,000	22,400
Value	\$121,000	\$124,000	\$132,000	\$132,000	\$157,000
Imports for consumption	8,160	8,050	8,420	8,680	9,340
Synthetic gypsum sales	2,300	2,500	2,700	3,000	5,200
Calcined:					
Produced	16,700	17,000	17,200	19,400	22,300
Value	\$290,000	\$287,000	\$302,000	\$330,000	\$381,000
Products sold (value)	\$2,120,000	\$2,380,000	\$2,550,000	\$3,150,000	\$3,540,000
Exports (value)	\$75,100	\$81,400	\$89,700	\$96,300	\$93,300
Imports for consumption (value)	\$166,000	\$196,000	\$229,000	\$262,000	\$465,000
World, production	97,600 r/	103,000 r/	106,000	103,000 r/	107,000 e/

e/ Estimated. r/ Revised.

1/ Data are rounded to no more three significant digits.

TABLE 2  
CRUDE GYPSUM MINED IN THE UNITED STATES, BY STATE 1/

	1998			1999		
	Active mines	Quantity (thousand metric tons)	Value (thousands)	Active mines	Quantity (thousand metric tons)	Value (thousands)
Arizona and New Mexico	6	1,590	\$9,500	6	1,950	\$12,800
Arkansas, Kansas, Louisiana	5	1,830	16,600	5	1,300	12,900
California, Nevada, Utah	15	3,410	18,600	16	5,510	19,100
Colorado, South Dakota, Wyoming	6	907	5,970	6	1,160	9,430
Indiana, New York, Ohio, Virginia	5	1,860	15,800	4	2,010	35,200
Iowa	6	2,320	15,100	6	2,570	15,700
Michigan	4	1,830	15,000	4	2,170	15,700
Oklahoma	8	3,020	19,500	8	3,510	20,100
Texas	6	2,260	15,500	6	2,230	15,700
Total	61	19,000	132,000	61	22,400	157,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3  
CALCINED GYPSUM PRODUCED IN THE UNITED STATES, BY STATE 1/

State	1998			1999		
	Active plants	Quantity (thousand metric tons)	Value (thousands)	Active plants	Quantity (thousand metric tons)	Value (thousands)
Alabama	--	--	--	1	259	\$5,100
Arizona, Colorado, New Mexico, Utah	5	1,600	\$11,900	4	1,730	11,000
Arkansas, Louisiana, Oklahoma	7	2,100	29,000	7	2,410	43,600
California	6	1,480	24,200	6	1,750	30,000
Maryland, North Carolina, Virginia	5	1,400	32,500	5	1,420	33,300
Florida	3	1,230	26,600	3	1,260	27,800
Georgia	3	845	27,600	2	782	25,200
Illinois, Indiana, Kansas	6	1,570	29,400	6	1,600	31,200
Iowa	5	1,670	19,800	4	1,600	26,500
Massachusetts, New Hampshire, New Jersey	5	1,300	27,000	5	1,870	36,600
Michigan	3	814	11,800	3	526	16,900
Nevada	3	1,430	10,800	4	2,830	19,600
New York	4	1,380	39,400	4	1,400	27,700
Ohio	3	526	10,900	3	521	10,500
Texas	4	1,420	17,600	4	1,480	18,700
Washington and Wyoming	3	586	10,900	3	909	17,500
Total	65	19,400	330,000	64	22,300	381,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 4  
GYPSUM PRODUCTS (MADE FROM DOMESTIC, IMPORTED, AND SYNTHETIC GYPSUM)  
SOLD OR USED IN THE UNITED STATES, BY USES 1/

(Thousand metric tons and thousand dollars)

Use	1998		1999	
	Quantity	Value	Quantity	Value
<b>Uncalcined:</b>				
Portland cement	5,120	67,600	5,730	77,200
Agriculture and miscellaneous 2/	2,840	42,100	4,100	37,700
Total	7,960	110,000	9,830	115,000
<b>Calcined:</b>				
Plasters	1,040	150,000	627	105,000
Prefabricated products 3/	25,300	2,890,000	27,000	3,310,000
Total calcined	26,400	3,040,000	27,700	3,420,000
Grand total	34,300	3,150,000	37,500	3,540,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes synthetic gypsum.

3/ Includes weight of paper, metal, or other materials and some synthetic gypsum.

TABLE 5  
PREFABRICATED GYPSUM PRODUCTS SOLD OR USED IN THE UNITED STATES 1/

Product	1998			1999		
	Thousand square feet	Thousand metric tons 2/	Value (thousands)	Thousand square feet	Thousand metric tons 2/	Value (thousands)
<b>Lath:</b>						
3/8 inch	3,820	2	\$866	3,960	3	\$1,010
1/2 inch	(3/)	(3/)	1	(3/)	(3/)	(3/)
Other	12,700	10	2,180	323	(3/)	47
Total	16,500	13	3,050	4,280	3	1,050
Veneer base	426,000	433	47,900	454,000	463	57,300
Sheathing	395,000	384	50,400	352,000	331	44,900
<b>Regular gypsumboard:</b>						
3/8 inch	790,000	737	102,000	812,000	802	113,000
1/2 inch	12,700,000	11,300	1,230,000	13,600,000	11,700	1,490,000
5/8 inch	2,040,000	2,130	163,000	2,180,000	2,310	184,000
1 inch	211,000	235	44,700	232,000	249	49,300
Other 4/	526,000	542	64,600	546,000	548	70,000
Total	16,200,000	14,900	1,610,000	17,400,000	15,600	1,910,000
Type X gypsumboard	6,890,000	7,050	816,000	7,630,000	7,810	893,000
Predecorated wallboard	83,900	85	29,400	86,900	87	31,200
5/16-inch mobile home board	1,680,000	1,340	170,000	1,530,000	1,450	160,000
Water- and moisture-resistant board	885,000	849	122,000	927,000	891	139,000
Other	243,000	234	46,200	388,000	374	78,800
Grand total	26,900,000	25,300	2,890,000	28,700,000	27,000	3,310,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes weight of paper, metal, or other materials.

3/ Less than 1/2 unit.

4/ Includes 1/4-, 7/16-, and 3/4-inch gypsumboard.

TABLE 6  
IMPORTS FOR CONSUMPTION OF CRUDE GYPSUM, BY COUNTRY 1/

(Thousand metric tons and thousand dollars)

Country	1998		1999	
	Quantity	Value	Quantity	Value
Argentina	--	--	(2/)	21
Australia	5	72	16	187
Belgium	--	--	2	475
Canada 3/	5,530	47,600	6,320	60,300
China	(2/)	12	(2/)	5
Dominican Republic	(2/)	26	(2/)	14
Finland	--	--	1	948
Germany	(2/)	2	9	1,240
Hong Kong	(2/)	6	--	--
Italy	(2/)	7	--	--
Jamaica	(2/)	2	--	--
Japan	(2/)	23	(2/)	37
Mexico	2,110	14,500	2,260	16,100
Morocco	--	--	(2/)	13
South Africa	17	177	--	--
Spain	1,020	7,840	720	7,260
Taiwan	--	--	1	185
Thailand	--	--	17	1,970
United Kingdom	(2/)	81	(2/)	118
Total	8,680	70,300	9,340	88,900

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

3/ Includes anhydrite.

Source: U.S. Census Bureau.

TABLE 7  
SUMMATION OF U.S. GYPSUM AND GYPSUM PRODUCTS TRADE DATA 1/

(Thousand metric tons and thousand dollars)

Year	Crude 2/		Plasters 3/		Boards 4/		Other 5/	Total
	Quantity	Value	Quantity	Value	Quantity	Value	Value	Value
<b>Exports:</b>								
1998	166	11,700	209	30,400	65	24,500	29,700	96,300
1999	112	11,000	588	32,000	52	22,900	27,400	93,300
<b>Imports for consumption:</b>								
1998	8,680	70,300	12	2,570	962	138,000	50,800	262,000
1999	9,340	88,900	14	3,470	1,710	294,000	79,300	465,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Import and export data are for "Gypsum, anhydrite," Harmonized Tariff Schedule 2520.10.0000.

3/ Import and export data are for "Plasters," Harmonized Tariff Schedule 2520.20.0000.

4/ Import and export data are for "Boards, sheets, panels, tiles and similar articles, not ornamented -faced or reinforced with paper or paperboard only," Harmonized Tariff Schedule 6809.11.0000.

5/ Import and export data are for "Boards, sheets, panels, tiles, and similar articles, not ornamented: other," Harmonized Tariff Schedule 6809.19.0000 and Other articles," Harmonized Tariff Schedule 6809.90.0000.

Source: U.S. Census Bureau.

TABLE 8  
GYPSUM: WORLD PRODUCTION, BY COUNTRY 1/ 2/

(Thousand metric tons)

Country	1995	1996	1997	1998	1999 e/
Afghanistan e/	3	3	3	3	3
Algeria e/	250	250	275	275	275
Argentina	590	633	697	650 r/	650
Australia e/	2,000	2,000	2,100	2,100	2,100
Austria 3/	873	996	1,000 e/	1,000 e/	1,000
Azerbaijan e/	50	55	60	60	60
Bhutan	52	55	50	53	54
Bolivia	2	(4/)	(4/)	--	--
Bosnia and Herzegovina e/	30	30	30	30	30
Brazil 3/	953	1,126	1,396	1,632 r/	1,630
Bulgaria 3/	163	169	156	183 r/	180
Burma	35	38	38	36 r/	45 5/
Canada 3/	8,055	8,202	8,628	8,967 r/	9,471 p/
Chile	464	520	398	781	785
China e/	7,340	7,780	9,100	9,000	9,000
Colombia e/	450	522	565	560 r/	560
Croatia	97	86	102	100 e/	100
Cuba e/	130	130	130	130	130
Cyprus e/	85 e/	150 e/	222	270	270
Czech Republic	542	443	241	222 r/	250
Dominican Republic	95	86	113	81	85
Ecuador	2	2	2	2 e/	2
Egypt 3/	2,032	2,000 e/	2,423 r/	1,338 r/	1,500
El Salvador e/	5	5	6	6	6
Eritrea	(4/)	(4/)	(4/)	(4/)	(4/)
Ethiopia e/ 3/	124 5/	124	120	100	100
France 3/	4,800	4,550	4,500	4,500	4,500
Germany (marketable) e/ 3/	2,829 5/	3,000	3,000	3,000	2,500
Greece 3/	485	546	663 r/	600 r/ e/	600
Guatemala e/	90	28 5/	30	30	30
Honduras e/	26	26	28	30	30
Hungary e/ 3/	198 5/	190	190	180	180
India	1,744	2,442	2,031 r/	2,192 r/	2,200
Indonesia	1	1 e/	-- r/	(4/)	6 5/
Iran 6/	8,230	8,570 r/	8,900 e/	9,750 r/	9,750
Iraq e/ 7/	250	200 r/	200 r/	250 r/	250
Ireland	406	422	477 r/	450	450
Israel e/	50	50	60 r/	60 r/	60
Italy	2,362	1,275 r/	1,300 r/ e/	1,300 r/ e/	1,300
Jamaica	208	339	264	154 r/	150
Japan	5,334	5,432	5,371	5,305 r/	5,500
Jordan e/	190 e/	190 e/	194	176	180
Kenya e/ 3/	1 r/	1 r/	1 r/	1 r/	1
Laos	85 e/	113 e/	114 r/	130 r/	135 5/
Latvia	81	64	117	W r/	W
Lebanon e/	2	3	3	3	3
Libya e/	160 r/	175 r/	125 r/	150 r/	150
Luxembourg e/ 3/	(4/)	(4/)	(4/)	(4/)	(4/)
Macedonia e/	25	25	25	25	25
Mali e/	(4/)	1	(4/)	1 r/	1
Mauritania	6	13 r/	80 r/	100 r/	100
Mexico 3/	4,854	6,065	5,869	7,045	7,000
Moldova	14	13	14 e/	14 e/	14
Mongolia e/	25	25	25	25 r/	10
Morocco e/	450	450	450	450	450
Namibia e/	--	--	--	3 r/ 5/	3
Nicaragua e/ 3/	13	13	16 r/ 5/	23 r/ 5/	23
Niger e/	2	2	2	2	2
Nigeria e/	150 5/	383	300	300	200
Pakistan	314	504	465 r/	244 r/	245 5/
Paraguay e/	5	5	5 r/	5	4
Peru e/	35	35	35	35	35
Poland 3/	1,023	1,028	1,035 r/	1,029 r/	1,000

See footnotes at end of table.



TABLE 8--Continued  
 GYPSUM: WORLD PRODUCTION, BY COUNTRY 1/ 2/

(Thousand metric tons)

Country	1995	1996	1997	1998	1999 e/
Portugal e/ 3/	450	521	500	500	500
Romania	111	91	79	75	75
Russia e/	697	1,534	559	600 r/	600
Saudi Arabia	370	363	365 e/	330 r/	330
Serbia and Montenegro	40	44	32	35	5
Sierra Leone e/	(4/)	(4/)	(4/)	(4/)	(4/)
Slovakia 3/	131	121 r/	116 r/	128 r/	120
Slovenia e/	10	10	10	10	10
Somalia e/	2	1	1	2	2
South Africa	288	341	365	486 r/	514 5/
Spain 3/	7,495	8,191 r/	8,000 r/ e/	8,000 r/ e/	7,500
Sudan e/ 3/	10	5	5	5	5
Switzerland e/	300	300	300	300	300
Syria	336	325	325 e/	325	325
Taiwan	3	3	2	2 r/	2
Tajikistan e/	30 r/	30 r/	26 r/	32 r/	35
Tanzania 3/	1	9	9 e/	9	9
Thailand	8,533	8,934	8,860	4,334 r/	5,000
Tunisia e/	100 r/	100 r/	100 r/	100 r/	100
Turkey	597	754	414 r/	352 r/	400
Turkmenistan	216	170	85 e/	100 r/	100
United Arab Emirates e/	90	90	90	90	90
United Kingdom e/ 3/	2,000	2,000	2,000	2,000	1,800
United States 8/	16,600	17,500	18,600	19,000	22,400 5/
Uruguay	145 e/	130	943 r/	1,123 r/	1,000
Venezuela	100	57	30	80	80
Yemen e/	80	80	80	80	80
Zambia e/ 7/ 9/	11	11	11	11	11
Total	97,600 r/	103,000 r/	106,000	103,000 r/	107,000

e/ Estimated. p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; not included in "Total." -- Zero.

1/ World totals, U.S. data, and estimated data are rounded to no more than three significant digits; may not add to totals shown.

2/ Table includes data available through July 14, 2000.

3/ Includes anhydrite.

4/ Less than 1/2 unit.

5/ Reported figure.

6/ Data are for years beginning March 21 of that stated.

7/ For cement production only. Information is insufficient to formulate reliable estimates for output for other uses (plaster, mortar, etc.).

8/ Excludes synthetic gypsum.

9/ Data are for years beginning March 1 of that stated.