

## SALT

(Data in thousand metric tons unless otherwise noted)

**Domestic Production and Use:** Domestic production of salt was estimated to have increased slightly in 2017 to 43 million tons. The total value of salt sold or used was estimated to be about \$1.9 billion. Twenty-eight companies operated 63 plants in 16 States. The top producing States, in alphabetical order, were Kansas, Louisiana, Michigan, New York, Ohio, Texas, and Utah. These seven States produced about 95% of the salt in the United States in 2017. The estimated percentage of salt sold or used was, by type, rock salt, 41%; salt in brine, 41%; solar salt, 9%; and vacuum pan salt, 9%.

Highway deicing accounted for about 44% of total salt consumed. The chemical industry accounted for about 37% of total salt sales, with salt in brine accounting for 87% of the salt used for chemical feedstock. Chlorine and caustic soda manufacturers were the main consumers within the chemical industry. The remaining markets for salt were, in declining order of use, distributors, 8%; agricultural and food processing, 3% each; other uses combined with exports and general industrial, 2% each; and primary water treatment, 1%.

<b>Salient Statistics—United States:<sup>1</sup></b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017<sup>e</sup></b>
Production	39,900	45,300	45,100	<sup>e</sup> 42,000	43,000
Sold or used by producers	43,100	46,000	42,800	<sup>e</sup> 38,000	39,000
Imports for consumption	11,900	20,200	21,600	12,100	13,000
Exports	525	935	841	716	1,100
Consumption:					
Apparent <sup>2</sup>	54,500	65,300	63,600	<sup>e</sup> 49,400	50,000
Reported	47,600	55,600	52,300	<sup>e</sup> 42,000	43,000
Price, average value of bulk, pellets and packaged salt, dollars per ton, f.o.b. mine and plant:					
Vacuum and open pan salt	172.09	180.61	188.87	<sup>e</sup> 190.00	190.00
Solar salt	78.04	75.35	82.45	<sup>e</sup> 87.00	90.00
Rock salt	47.22	48.11	56.32	<sup>e</sup> 50.00	45.00
Salt in brine	8.49	9.08	10.27	<sup>e</sup> 10.50	9.40
Employment, mine and plant, number <sup>e</sup>	4,100	4,200	4,200	4,100	4,100
Net import reliance <sup>3</sup> as a percentage of apparent consumption	22	29	33	23	23

**Recycling:** None.

**Import Sources (2013–16):** Chile, 38%; Canada, 31%; Mexico, 11%; The Bahamas, 4%; and other, 16%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations</b>	
		<b>12-31-17</b>	<b>Free.</b>
Salt (sodium chloride)	2501.00.0000		

**Depletion Allowance:** 10% (Domestic and foreign).

**Government Stockpile:** None.

**Events, Trends, and Issues:** The winter was warmer than average in 2016–17 for the second straight year. The amount of frozen precipitation and the number of winter weather events was below average in many parts of the United States, requiring less salt for highway deicing. Rock salt production and imports in 2017 increased only slightly from the levels in 2016 because demand from many local and State transportation departments was relatively stable. The majority of local and State governments in cold regions reportedly had rebuilt their stockpiles and had large supplies of rock salt available for the winter of 2016–17. As winter ended, many consumers of rock salt had substantial stockpiles of salt remaining as they considered salt purchases for the next winter season. Owing to the flat demand for deicing salt, many buyers were experiencing decreases in rock salt unit prices.

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For the winter of 2017–18, the National Oceanic and Atmospheric Administration predicted another La Niña weather pattern of a cooler and snowier winter for the traditional snowbelt in the northern tier of the United States, with average or above-average winter precipitation and average to cooler temperatures. The southern part of the United States was expected to be warmer and dryer than average. This was likely to have little impact on consumption of salt for deicing compared to the 2016–17 winter season because of similar weather conditions. It was anticipated that the salt industry would be able to provide adequate salt supplies from domestic and foreign sources for emergency use in the event of harsher than anticipated winter weather.

Demand for salt brine used in the chloralkali industry was expected to increase as demand for caustic soda increased globally, especially in Asia. Exports from India increased to supply the growing demand for caustic soda in China.

### **World Production and Reserves:**

	<b>Production<sup>e</sup></b>		<b>Reserves<sup>4</sup></b>
	<b>2016</b>	<b>2017</b>	
United States <sup>1</sup>	42,000	43,000	
Australia	11,000	11,000	
Brazil	7,600	7,500	
Canada	14,000	13,000	
Chile	12,000	12,000	
China	67,000	68,000	
France	6,000	6,000	
Germany	12,000	13,000	
India	25,000	26,000	
Mexico	8,800	9,000	
Poland	3,500	3,500	
Spain	4,300	4,300	
Turkey	11,000	11,000	
United Kingdom	5,000	5,000	
Other countries	45,000	45,000	
World total (rounded)	270,000	280,000	

**World Resources:** World continental resources of salt are vast, and the salt content in the oceans is nearly unlimited. Domestic resources of rock salt and salt from brine are primarily in Kansas, Louisiana, Michigan, New York, Ohio, and Texas. Saline lakes and solar evaporation salt facilities are in Arizona, California, Nevada, New Mexico, Oklahoma, and Utah. Almost every country in the world has salt deposits or solar evaporation operations of various sizes.

**Substitutes:** No economic substitutes or alternatives for salt exist in most applications. Calcium chloride and calcium magnesium acetate, hydrochloric acid, and potassium chloride can be substituted for salt in deicing, certain chemical processes, and food flavoring, but at a higher cost.

<sup>e</sup>Estimated.

<sup>1</sup>Excludes production from Puerto Rico.

<sup>2</sup>Defined as sold or used by producers + imports – exports.

<sup>3</sup>Defined as imports – exports.

<sup>4</sup>See [Appendix C](#) for resource and reserve definitions and information concerning data sources.