

SALT

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: Domestic production of salt increased slightly in 2011. The total value was estimated to be more than \$1.7 billion. Twenty-eight companies operated 60 plants in 16 States. The estimated percentage of salt sold or used, by type, was rock salt, 44%; salt in brine, 38%; vacuum pan, 10%; and solar salt, 8%.

The chemical industry consumed about 40% of total salt sales, with salt in brine representing about 90% of the type of salt used for feedstock. The chlorine and caustic soda manufacturing sector was the main consumer within the chemical industry. Salt for highway deicing accounted for 38% of U.S. demand. The remaining markets for salt, in declining order, were distributors, 8%; agricultural, 4%; food, 4%; general industrial, 2%; water treatment, 2%; and other combined with exports, 2%.

Salient Statistics—United States: ¹	2007	2008	2009	2010	2011^e
Production	44,500	48,000	46,000	43,300	44,000
Sold or used by producers ²	45,500	47,400	43,100	43,500	44,000
Imports for consumption	8,640	13,800	14,700	12,900	13,000
Exports	833	1,030	1,450	595	400
Consumption:					
Reported	53,200	53,100	45,000	48,600	57,000
Apparent ²	53,300	60,200	56,400	55,800	57,000
Price, average value of bulk, pellets and packaged salt, dollars per ton, f.o.b. mine and plant:					
Vacuum and open pan salt	154.95	158.59	178.67	180.08	180.00
Solar salt	61.50	64.33	72.09	50.90	60.00
Rock salt	27.84	31.39	36.08	35.40	32.00
Salt in brine	7.11	7.99	7.85	7.49	8.00
Employment, mine and plant, number ^e	4,100	4,100	4,100	4,100	4,100
Net import reliance ³ as a percentage of apparent consumption	15	21	24	22	22

Recycling: None.

Import Sources (2007–10): Canada, 38%; Chile, 34%; Mexico, 9%; The Bahamas, 6%; and other, 13%.

Tariff: Item	Number	Normal Trade Relations
Salt (sodium chloride)	2501.00.0000	12-31-11 Free.

Depletion Allowance: 10% (Domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: A major soup manufacturer that reformulated more than 60% of its condensed soups in 2010 announced that it would reintroduce salt into some of its product lines. The decision was based on consumers complaints that the reduced sodium levels adversely affected the taste of the soups. The company will still offer soups lower in sodium for those individuals on salt-restricted diets.

Computer hard drive storage capacity has risen in the past several years from megabytes to terabytes. Inside the hard drive is a spinning magnetic platter that is covered with randomly dispersed nanoscopic grains that store the information. Researchers discovered that adding a salt solution to the developer solution in the electron-beam lithography process significantly decreases the nanostructures, thereby increasing the storage capacity of the hard drive. The researchers were optimistic that 18-terabyte hard drives could be achieved in the next few years.

The Centers for Disease Control and Prevention and the National Institutes of Health published a joint survey that showed about 90% of U.S. citizens consume more than the recommended amount of salt despite efforts in the past few years to publicize the health dangers of consuming too much salt.

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Many scientists have been studying global weather changes. The National Aeronautics and Space Administration (NASA) launched its Aquarius instrument on a satellite in June 2011. Later in the year, NASA produced the first global map of the salinity of the Earth's ocean surface to measure salinity variations and their connections between global rainfall, ocean currents, and climate variations. The data showed higher salinity in the subtropics and lower salinity in the equatorial rain belts. The salinity changes are linked to the influence of freshwater around the planet on ocean circulation.

China has been the top-ranked salt-producing nation for the past few years. Salt consumption is forecast to grow in China because of the sustained demand growth for chloralkali and synthetic soda ash. One study indicated that world salt production may reach about 300 million tons in the next 3 years. China now accounts for one-third of world salt consumption, placing it ahead of Europe and North America.

Budget constraints in the United States for local and State governments may affect the availability and consumption of rock salt for highway deicing in 2012. It is anticipated that the domestic salt industry will be able to provide adequate salt supplies from domestic and foreign sources for emergency use in the event of adverse winter weather.

World Production and Reserves:

	Production		Reserves ⁴
	2010	2011 ^e	
United States ¹	43,300	44,000	Large. Economic and subeconomic deposits of salt are substantial in principal salt-producing countries. The oceans contain a virtually inexhaustible supply of salt.
Australia	11,968	13,000	
Bahamas, The	10,000	10,000	
Brazil	7,020	7,000	
Canada	10,537	11,000	
Chile	8,400	9,000	
China	62,750	65,000	
France	6,100	6,000	
Germany	19,100	20,000	
India	17,000	18,000	
Mexico	8,431	8,800	
Netherlands	5,000	5,000	
Pakistan	11,000	11,000	
Poland	3,520	4,000	
Spain	4,350	4,400	
Turkey	4,000	4,000	
Ukraine	5,400	5,500	
United Kingdom	5,800	5,800	
Other countries	<u>36,200</u>	<u>39,000</u>	
World total (rounded)	280,000	290,000	

World Resources: World continental resources of salt are practically unlimited, and the salt content in the oceans is virtually inexhaustible. Domestic resources of rock salt and salt from brine are in the Northeast, Central Western, and Gulf Coast States. Saline lakes and solar evaporation salt facilities are near populated regions in the Western United States. Almost every country in the world has salt deposits or solar evaporation operations of various sizes.

Substitutes: There are no economic substitutes or alternates for salt. 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.

^eEstimated.

¹Excludes Puerto Rico production.

²Reported stock data are incomplete. For apparent consumption and net import reliance calculations, changes in annual stock totals are assumed to be the difference between salt produced and salt sold or used.

³Defined as imports – exports + adjustments for Government and industry stock changes.

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