

LITHIUM STATISTICS¹
U.S. GEOLOGICAL SURVEY
 [All values in metric tons (t) lithium unless otherwise noted]
 Last modification: October 1, 2007

Year	Production	Imports	Exports	Estimated consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1900	10.4			10.4			
1901	35.0			35.0			
1902	24.9			24.9			
1903	23.1			23.1			
1904	11.5			11.5			
1905	1.58			1.58			
1906	7.66			7.66			
1907	10.6			10.60			
1908	4.06			4.06			
1909	3.78			3.78			
1910	4.76			4.76			
1911	10.0			10.0			
1912	7.20			7.20			
1913	10.6			10.6			
1914	10.5			10.5			
1915	9.72			9.72			
1916	12.4			12.4			
1917	41.2			41.2			
1918	118			118			
1919	126			126			
1920	234			234			
1921	36.7			36.7			
1922	43.8			43.8			
1923	46.2			46.2			
1924	59.9			59.9			
1925	62.8			62.8			3,730
1926	74.0			74.0			4,530
1927	83.5			83.5			5,260
1928	92.0			92.0			5,970
1929				64.0			3,140
1930	35.9			35.9			3,030
1931				35.2			679
1932				34.6			690
1933	10.1			33.9			738
1934	14.4			14.4			1,200
1935	23.1			23.1			1,540
1936	24.8			24.8	2,800	32,900	2,060
1937	27.1			27.1			3,280
1938	22.3			22.3			2,510
1939	49.8			49.8			3,060
1940	52.5			52.5			3,440
1941	97.1			97.1			4,400
1942	139			139			6,990
1943	215			215			9,180
1944	394			394			15,600
1945	127			127			2,830
1946	150			150			4,540
1947	93			93			5,350
1948	135			135			5,450
1949	221			221			6,270
1950	347			347			18,000
1951	444			444			25,200

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1952	505			505	2,380	14,600	25,500
1953	821			821	1,870	11,400	57,800
1954	1,140			1,140	2,200	13,300	93,200
1955				1,250	2,130	13,000	86,000
1956				1,350	2,130	12,800	105,000
1957				1,460	1,720	9,940	111,000
1958				1,560	1,610	9,100	87,800
1959				1,670	1,610	8,990	62,400
1960		927		1,770	1,630	8,960	87,100
1961		487		1,880	1,480	8,040	57,200
1962		557		1,980	1,190	6,400	47,300
1963		408		2,090	1,170	6,220	49,500
1964		490		2,190	1,170	6,160	64,000
1965		204		2,300	992	5,110	68,500
1966		177		2,400	1,060	5,330	3,450
1967		474		2,510	970	4,730	7,590
1968		218		2,610	992	4,660	63,700
1969		117		2,720	1,010	4,490	68,000
1970		57.2		2,820	1,150	4,830	73,100
1971		118	590	2,860	1,120	4,510	73,400
1972		27.2	581	2,980	1,160	4,520	19,700
1973		118	835	3,490	1,220	4,480	79,300
1974		63.5	907	4,130	1,740	5,750	113,000
1975		81.6	816	2,620	1,720	5,210	122,000
1976		9.07	1,450	2,540	1,830	5,240	75,000
1977		9.07	1,630	3,720	1,940	5,220	74,300
1978		9.07	1,810	3,080	2,110	5,270	81,900
1979		45.4	2,180	2,900	2,260	5,080	76,000
1980		81.6	2,270	2,720	2,660	5,260	92,800
1981		136	2,360	2,900	3,110	5,570	90,200
1982		27.2	2,090	1,810	3,110	5,250	83,600
1983		31.8	2,360	2,000	3,260	5,340	93,700
1984		81.6	2,630	2,900	3,400	5,340	108,000
1985		370	2,300	2,300	3,310	5,020	122,000
1986		610	1,800	2,400	3,310	4,920	132,000
1987		820	1,800	2,400	3,420	4,910	139,000
1988		1,000	2,300	2,700	3,590	4,950	154,000
1989		630	2,600	2,700	3,810	5,010	173,000
1990		790	2,600	2,700	4,030	5,030	163,000
1991		590	2,400	2,600	4,210	5,040	149,000
1992		770	2,100	2,300	4,320	5,020	156,000
1993		810	1,700	2,300	4,210	4,750	127,000
1994		851	1,700	2,500	4,410	4,850	128,000
1995		2,640	1,900	2,600	4,340	4,640	177,000
1996		884	2,200	2,700	4,340	4,510	214,000
1997		975	1,880	2,800	4,480	4,550	213,000
1998		2,590	1,340	2,800	4,480	4,480	178,000
1999		2,640	1,330	2,800	4,470	4,360	188,000
2000		2,880	1,310	2,800	4,470	4,230	204,000
2001		1,990	1,480	1,400	1,490	1,370	210,000
2002		1,920	1,620	1,100	1,590	1,440	219,000
2003		2,200	1,520	1,400	1,550	1,370	252,000

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2004		2,910	1,690	1,900	1,720	1,480	254,000
2005		3,580	1,720	2,500	1,460	1,220	338,000
2006		3,260	1,500	2,500	2,320	1,880	333,000

¹Compiled by T.D. Kelly (retired) and J.A. Ober.

Data are calculated, estimated, or reported. See notes for more information.

Lithium Worksheet Notes

Data Sources

The sources of data for the lithium worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey—Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR); Mineral Commodity Summaries (MCS) and its predecessor, Commodity Data Summaries (CDS); and U.S. Bureau of Mines Circular 8053 (Schreck, 1961). The years of publication and corresponding years of data coverage are listed in the References section below. Blank cells in the worksheet indicate that data were either not available or were withheld to avoid disclosing proprietary information.

Production

Production data for lithium refers to lithium contained in material produced or shipped from mines and brine operations in the United States. Production data for the years 1940–54 include both gross tons of lithium minerals and compound production and Li_2O content of these products. Li_2O contains 46.46 percent lithium; this information was used to determine lithium content for those years. Because production data for the years 1940–54 included dilithium sodium phosphate, the average lithium content of domestic production varied from 2.50 percent to 5.20 percent for the period. Most lithium ores average about 2.00 percent and, and dilithium sodium phosphate contains about 10.5 percent lithium.

Prior to 1940, the quantities of different lithium-bearing materials were not specified so that assumptions were made to estimate lithium content. Dilithium sodium phosphate was produced during the years 1938–78, so adjustments were made for the years 1938 and 1939. Lithium content was estimated as 2.50 percent for 1939 and 2.00 percent for 1938. Production data from 1900 through 1954 were taken from U.S. Bureau of Mines Information Circular 8053 (Schreck, 1961). For the years 1929, 1931, 1932 and 1955–2006 production data were withheld to avoid disclosure of individual company confidential data.

Imports

Import data for the years 1960–70 are from the MCS, while import data for the years 1971–2006 are from the Salient Statistics table in the MYB. All import data are in contained lithium. Most imports for the years 1960–88 were mineral concentrates used in ceramics and glass not used to produce lithium compounds. In addition, during this period, the compounds reported as imports varied from year to year. Often the designations were nonspecific, such as compounds, salts, and/or organic salts making the reported lithium contents questionable. When the U.S. Census Bureau (USCB) began using the Harmonized Tariff Schedule in 1989, lithium carbonate and lithium hydroxide imports were specified. Unfortunately, other categories of lithium compounds were combined in nonspecific categories. Since 1989, imports of lithium ores and ore concentrates have not been reported by USCB, although the United States remains a major importer of these materials. Lithium metal imports became unavailable also. For these reasons, a large percentage of lithium imports go unreported. Import data are not available for the years 1900–59.

Exports

All export data are in contained lithium. For the years 1971–81, USCB reported exports of lithium hydroxide only. Data for other compounds was estimated with reported imports by other countries of U.S. lithium compounds. However, the lithium hydroxide data were significantly lower than the reported lithium hydroxide imports of the other countries listed. For the years 1982–88, USCB reported exports of lithium carbonate, lithium hydroxide, and other lithium compounds. Data are from the Salient Statistics table in the MYB. Export data are not available for the years 1900–70.

Apparent Consumption

Consumption data are in contained lithium. Production data were used to estimate consumption from 1900–54, since import and export data were not available. Apparent consumption data for the years 1929, 1931, and 1932 were interpolated since data for these years were not available. From 1955–70, consumption was interpolated. Consumption data for the years 1971–2006 were taken from the Salient Statistics table in the MYB where the data are reported as estimated consumption.

Unit Value (\$/t)

Unit value is the value of 1 metric ton (t) of lithium apparent consumption. The price series for lithium carbonate was used to estimate unit value for lithium. Lithium carbonate is a good estimator of unit value due to the large quantity and importance of this compound compared to other lithium compounds. Data prior to 2001 is a continuation of the published price series (\$/kilogram) converted to \$/t, for lithium carbonate provided by the Lithium Commodity Specialist. Since 2001, unit value has been based on the average USCB import price data available in the “Prices” section of the MYB.

Unit Value (98\$/t)

The Consumer Price Index conversion factor, with 1998 as the base year, was used to adjust the unit value in current U.S. dollars to unit value in constant 1998 U.S. dollars.

World Production

World production data are in gross tons of lithium minerals and brine. Since 1967, lithium production was reported as ore and ore concentrates from mines and lithium carbonate from brine deposits. World production data for the years 1966–67 do not include data

from Rhodesia (Zimbabwe) and some other African countries. Zimbabwe was by far the largest producer at the time. After 1954, world production does not include U.S. production. Data were not available for the years 1900–24.

References

- Schreck, A.E., 1961, Lithium—A materials survey: U.S. Bureau of Mines Information Circular 8053, 81 p.
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Recommended Citation Format:

U.S. Geological Survey, [year of last update, e.g., 2005], [Mineral commodity, e.g., Gold] statistics, in Kelly, T.D., and Matos, G.R., comps., Historical statistics for mineral and material commodities in the United States: U.S. Geological Survey Data Series 140, available online at <http://pubs.usgs.gov/ds/2005/140/>. (Accessed [date].)

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