

ARSENIC STATISTICS¹
U.S. GEOLOGICAL SURVEY
[All values are in metric tons (t) arsenic content unless otherwise noted]
Last modification: November 8, 2007

Year	Production	Shipments	Imports	Exports	Stocks	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1900	0		1,980			1,980	130	2,600	6,170
1901	206		2,400			2,610	110	2,200	5,190
1902	929		2,790			3,030	90	1,800	5,340
1903	420		2,870			3,290	100	1,700	3,820
1904	25		2,340			2,360	100	1,800	3,500
1905	518		2,640			3,150	100	1,900	13,100
1906	506		2,740			3,240	190	3,400	
1907	1,200		3,550			4,750	140	2,400	
1908			3,530			3,920	130	2,300	
1909	834		2,250			3,090	110	2,000	
1910	1,030		2,980			1,950	80	1,400	6,810
1911	2,150		2,500			3,470	90	1,500	12,800
1912	2,160		3,790			4,290	100	1,700	27,600
1913	1,730		2,770	22.5		2,770	128	2,100	13,400
1914	3,210		2,200	0.263		4,300	109	1,780	11,500
1915	3,780		1,930	3.67		4,740	116	1,880	13,300
1916	4,110		1,330	0.661		4,850	176	2,640	13,300
1917	4,220	4,220	2,310	42.6		5,030	408	5,190	16,400
1918	4,340	4,340	3,890	30.0		5,610	350	3,770	23,200
1919	4,140	4,140	4,180	0		7,150	291	2,750	19,000
1920	7,900	7,900	4,780	5.18		10,500	411	3,350	27,900
1921	4,230	3,290	2,960	8.92		4,430	222	2,020	16,200
1922	6,420	6,890	2,830	5.36		7,630	313	3,040	23,500
1923	10,200	9,800	7,690			16,800	357	3,400	47,300
1924	13,900	9,930	6,280			16,000	291	2,780	47,200
1925	8,320	8,460	6,740			14,900	143	1,330	50,300
1926	4,640	8,110	5,520			13,400	93	858	41,100
1927	8,060	7,940	8,820			16,500	109	1,020	39,900
1928	9,730	8,080	7,890	458		15,700	116	1,110	43,200
1929	11,400	9,990	9,280	948		19,000	116	1,110	46,000
1930	11,700	12,000	7,610	1,100		19,200	116	1,140	49,600
1931	11,800	9,460	5,540	1,750		13,900	116	1,250	51,000
1932	8,720	8,570	4,890	2,120		11,900	116	1,390	51,500
1933	7,310	8,100	7,500	2,020		14,000	116	1,460	27,300
1934	8,990	10,700	9,900	2,660		18,600	109	1,330	38,200
1935	9,780	8,700	10,610	1,610		18,500	102	1,210	41,600
1936	10,600	10,700	12,380	2,120		22,100	102	1,190	42,200
1937	11,500	12,100	13,590	2,810		22,500	95	1,070	42,400
1938	11,500	9,040	9,950	2,820		17,200	87	1,010	52,200
1939	15,300	15,400	10,610	3,880	3,780	23,300	87	1,020	42,800
1940	17,200	16,000	6,980	2,690	4,770	21,700	102	1,190	40,400
1941	22,300	23,900	7,320	4,230	3,100	29,800	116	1,290	46,000
1942	19,700	21,300	11,230	1,120	1,500	32,300	116	1,160	47,700
1943	21,400	22,300	11,100	3,260	781	32,000	116	1,100	50,200
1944	24,800	23,700	6,850	2,990	1,900	28,900	116	1,080	51,800
1945	16,700	17,000	9,660	2,570	1,580	26,200	116	1,060	42,100
1946	7,010	8,270	9,560	2,640	323	17,100	146	1,220	31,800
1947	12,900	12,500	9,620	2,310	713	21,400	175	1,280	42,400
1948	12,800	10,300	6,460	1,330	3,240	16,700	178	1,210	40,900
1949	8,790	6,990	3,260	989	5,030	10,200	160	1,100	26,500
1950	9,120	11,900	10,320	987	1,700	22,000	168	1,130	35,700
1951	11,100	9,860	10,460	1,210	3,320	19,800	189	1,190	47,400

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1952	10,800	6,350	3,190	1,180	7,740	9,430	175	1,070	37,100
1953	7,470	7,770	3,320	845	7,430	11,000	160	978	20,600
1954	9,040	7,910	3,430	541	8,560	11,200	160	971	26,100
1955	7,400	8,020	5,120	598	7,950	13,000	160	975	30,900
1956	8,380	13,000	4,530	643	3,320	17,400	160	960	33,700
1957	7,210	8,780	7,100	805	1,740	15,700	160	930	30,900
1958	7,900	7,510	6,640	678	2,140	14,000	160	904	27,500
1959	3,560	4,970	13,400	307	727	18,300	131	734	32,100
1960	9,400		8,930	439		12,800	131	722	39,400
1961	1,850		13,500	322		14,400	116	635	40,500
1962	2,060		11,000	477		14,200	116	629	34,100
1963	1,720		10,200	199		15,000	148	791	36,600
1964	5,290		12,700	687	3,160	17,100	153	804	39,900
1965	8,450		10,900		1,030	16,900	166	859	38,600
1966	6,460		13,100		893	16,700	147	737	39,500
1967	3,430		19,100		687	18,300	166	810	44,600
1968	4,190		17,700		275	16,400	178	836	46,400
1969	7,070		12,800		1,580	14,100	189	841	37,700
1970	9,900		13,400		4,400	13,900	189	795	37,500
1971	5,150		12,400		8,170	13,500	189	762	37,800
1972	7,070		10,050		9,340	13,000	189	738	31,400
1973	6,390		9,960		10,000	22,000	189	695	35,200
1974	4,600		10,150		7,280	25,200	379	1,250	37,200
1975	5,080		8,720		1,580	15,400	382	1,160	30,700
1976	4,530		3,370		1,990	9,700	382	1,090	26,100
1977	3,370		5,090		2,060	12,000	382	1,030	23,200
1978	3,980		7,910	232	206	13,400	677	1,690	23,300
1979	4,530		8,950	734	68.7	15,600	706	1,590	22,400
1980	3,400		9,000	1,150		12,400	925	1,830	23,600
1981	4,050		14,300	396	68.7	20,000	1,160	2,090	33,100
1982	8,000		12,100	2,010	1,510	16,200	1,160	1,970	34,500
1983	7,300		10,090	64.3	2,350	13,600	961	1,570	31,900
1984	6,800		12,500	57.5	2,500	17,300	961	1,510	35,600
1985	2,200		14,200	120	681	18,100	961	1,460	40,300
1986	0		20,800	164	280	21,100	961	1,430	39,600
1987	0		21,600	50	174	21,900	1,050	1,500	47,200
1988	0		22,000	120	75.7	22,300	961	1,320	40,400
1989	0		22,400	126	75.7	22,300	786	1,030	49,400
1990	0		20,700	149	75.7	20,500	670	836	40,400
1991	0		21,800	233		21,600	728	871	34,800
1992	0		24,000	94		23,900	845	981	34,700
1993	0		21,600	364		21,300	757	854	31,900
1994	0		21,600	79		21,500	932	1,030	35,400
1995	0		22,500	430		22,300	961	1,030	35,600
1996	0		21,400	36		21,400	961	1,000	32,500
1997	0		23,700	61		23,700	903	917	31,800
1998	0		30,200	177		30,100	932	932	30,500
1999	0		23,300	1,350		22,000	845	826	31,600
2000	0		24,500	41		24,400	932	882	47,500
2001	0		25,000	57		24,900	815	751	45,000
2002	0		19,700	100		19,600	961	871	44,700
2003	0		21,700	173		21,600	990	877	44,600

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2004	0		7,020	220		6,800	932	804	37,500
2005	0		9,150	3,273		5,880	477	398	52,500
2006	0		10,400	3,060		7,340	472	381	59,800

¹Compiled by D.A. Buckingham and W.E. Brooks.

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

Arsenic Worksheet Notes

Data Sources

Sources of data for the arsenic 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 Mineral Facts and Problems (MFP). Years of publication and corresponding years of data coverage are listed in the References section below. In addition, some data came from U.S. Bureau of Mines Information Circular 9382 (Loebenstein, 1994). Blank cells in the worksheet indicate that data were either not available or were withheld from publication in order to avoid disclosing proprietary data.

Production

Domestic production is defined as crude and refined arsenic reported in terms of arsenic content. Production data were not available for the years 1900 and 1908. Domestic arsenic production ceased after 1985. Data for the years 1960, 1970, and 1980 came from Loebenstein (1994). Data for the years 1961–69 and 1971–79 are from the MFP. Other data are from the MR and the MYB.

Shipments

Domestic producer shipments are reported in terms of arsenic content. Data on shipments are not available prior to 1917 and after 1959. Data are from the MR and the MYB.

Imports

Data include arsenic metal, and the arsenic content of arsenic compounds such as trioxide (white arsenic), sulfides (mostly ore); calcium, lead, and sodium arsenic imports to the United States, excluding these compounds, arsenic green, arsenic purple, and sheep dip. Contained arsenic is calculated using the percentage of arsenic in each compound, when compounds are combined the average arsenic grade is used. Data are totaled on an annual basis. Data are from the MR and the MYB.

Exports

Data include the arsenic content of arsenic metal and ore, arsenic trioxide (white arsenic), calcium, and lead arsenic compounds exported from the United States. Contained arsenic is calculated using the percentage of arsenic in each compound, when compounds are combined the average arsenic grade is used. Data are totaled on an annual basis. Export data are not available prior to 1913, for the years 1919, 1923–27 and 1965–75. Data are withheld because they are proprietary for the years 1976–77. Data for the years 1978–86 and 1989–95 are from the MCS. All other data are from the MR and the MYB.

Stocks

Data are reported in terms of the arsenic content of producer stocks. Stock data are not available prior to 1939 and for the years 1960–63, 1980, and 1991–2006. Data for the years 1964–81 are from the MFP. All other data are from the MR and the MYB.

Apparent Consumption

Apparent consumption data for the arsenic spreadsheet are a combination of published and calculated consumption data. Apparent consumption is estimated for the years 1900, 1907, and 1909 using the following equation:

$$\text{APPARENT CONSUMPTION} = \text{PRODUCTION} + \text{IMPORTS} - \text{EXPORTS} \pm \text{STOCK CHANGES.}$$

When arsenic data for a particular category other than apparent consumption were unavailable, data were presumed to be zero in making the above calculation.

Apparent consumption is estimated by interpolation for the year 1908. Published apparent supply data are used for the years 1902–06. Published apparent consumption data are used for the years 1910–59 and 1984–95. Published apparent demand data from the MFP are used for the years 1960–83. Published apparent consumption data from the MYB are used for the years 1996–2006.

Unit Value (\$/t)

Unit value is defined as the value of 1 metric ton (t) apparent consumption of arsenic content. Excluding the year 1908, data are estimated using the market price in U.S. dollars per ton of arsenic trioxide. Data for 1908 is the average of the 1908 market price range for arsenic trioxide. The market price of arsenic trioxide was converted to a value for the contained arsenic by dividing the arsenic trioxide price by the percentage of arsenic contained in arsenic trioxide (75.7 percent). Data for the years 1900–96 are from the MR and the MYB. Data for the years 1997–2006 are from the MCS.

Unit Value (98\$/t)

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

World Production

Data are the world production of arsenic trioxide in terms of arsenic content. Data are not available for the years 1906–09. Data are from the MR and the MYB.

References

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