

**KAOLIN END-USE STATISTICS<sup>1</sup>**  
**U.S. GEOLOGICAL SURVEY**

[Metric tons]

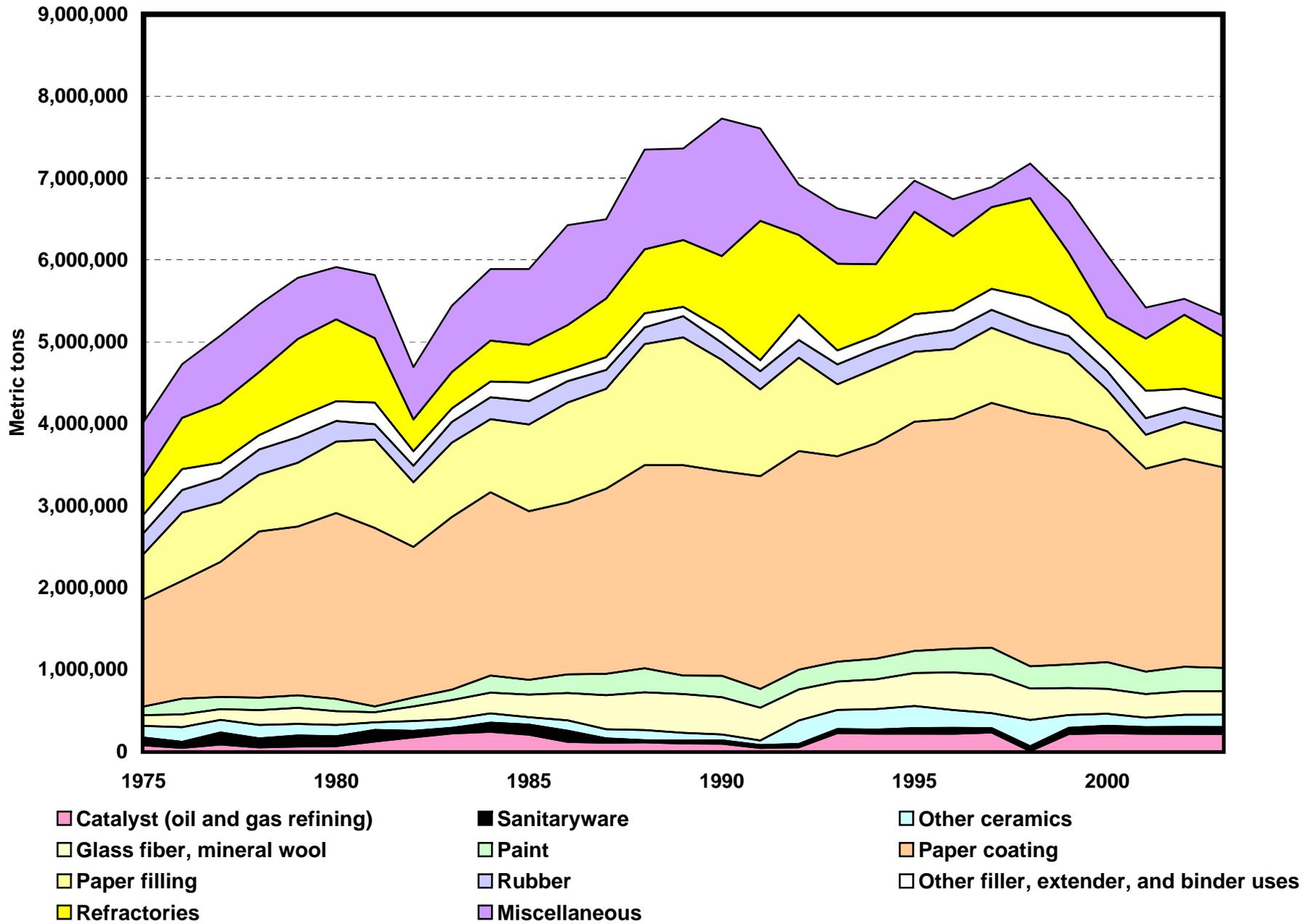
Last modification: September 15, 2005

Year	Ceramics			Glass fiber, mineral wool	Filler, extender, and binder					Refractories	Miscellaneous	Trade adjustments	Apparent consumption
	Catalyst (oil and gas refining)	Sanitaryware	Other ceramics		Paint	Paper coating	Paper filling	Rubber	Other filler, extender, and binder uses				
1975	71,000	94,400	143,000	131,000	104,000	1,310,000	552,000	257,000	225,000	465,000	667,000	40,100	4,060,000
1976	39,400	74,300	179,000	155,000	192,000	1,440,000	833,000	275,000	257,000	625,000	656,000	96,500	4,820,000
1977	81,200	146,000	154,000	132,000	148,000	1,650,000	726,000	296,000	188,000	730,000	826,000	-32,500	5,040,000
1978	45,700	110,000	163,000	182,000	152,000	2,030,000	694,000	307,000	175,000	770,000	826,000	-188,000	5,270,000
1979	56,400	134,000	142,000	196,000	153,000	2,060,000	781,000	311,000	244,000	956,000	747,000	-155,000	5,630,000
1980	60,900	120,000	139,000	168,000	149,000	2,270,000	874,000	251,000	242,000	999,000	639,000	-14,400	5,900,000
1981	117,000	141,000	93,800	123,000	69,800	2,180,000	1,080,000	188,000	264,000	786,000	772,000	-131,000	5,680,000
1982	168,000	78,700	121,000	178,000	108,000	1,840,000	790,000	201,000	179,000	386,000	640,000	-87,200	4,600,000
1983	216,000	67,600	108,000	232,000	126,000	2,110,000	908,000	253,000	165,000	443,000	811,000	-105,000	5,330,000
1984	236,000	111,000	113,000	253,000	209,000	2,240,000	893,000	267,000	192,000	499,000	875,000	47,900	5,940,000
1985	200,000	124,000	89,800	275,000	181,000	2,060,000	1,060,000	285,000	228,000	460,000	925,000	-60,800	5,830,000
1986	113,000	135,000	128,000	333,000	227,000	2,100,000	1,220,000	261,000	135,000	551,000	1,220,000	-95,000	6,330,000
1987	102,000	53,900	111,000	416,000	261,000	2,260,000	1,220,000	231,000	156,000	717,000	967,000	-313,000	6,180,000
1988	108,000	24,400	124,000	461,000	294,000	2,480,000	1,480,000	203,000	173,000	780,000	1,220,000	-507,000	6,840,000
1989	93,300	35,100	95,000	473,000	226,000	2,570,000	1,560,000	259,000	114,000	815,000	1,120,000	-724,000	6,640,000
1990	91,000	41,000	72,000	454,000	261,000	2,500,000	1,360,000	208,000	165,000	894,000	1,680,000	-1,410,000	6,320,000
1991	38,000	35,000	57,000	400,000	228,000	2,600,000	1,060,000	221,000	136,000	1,700,000	1,130,000	-886,000	6,720,000
1992	46,800	41,300	286,000	379,000	242,000	2,670,000	1,140,000	216,000	308,000	974,000	616,000	-1,180,000	5,740,000
1993	221,000	48,300	233,000	347,000	242,000	2,510,000	878,000	243,000	171,000	1,060,000	675,000	-774,000	5,850,000
1994	213,000	50,200	249,000	364,000	253,000	2,630,000	917,000	240,000	157,000	873,000	560,000	-909,000	5,600,000
1995	213,000	67,900	270,000	402,000	270,000	2,800,000	853,000	194,000	267,000	1,250,000	380,000	-718,000	6,250,000
1996	212,000	72,100	218,000	458,000	288,000	2,810,000	854,000	231,000	241,000	903,000	453,000	-786,000	5,950,000
1997	227,000	53,700	182,000	471,000	329,000	2,990,000	918,000	218,000	258,000	997,000	246,000	-960,000	5,930,000
1998	W	59,400	320,000	385,000	271,000	3,090,000	866,000	216,000	336,000	1,210,000	423,000	-1,040,000	6,140,000
1999	208,000	75,600	157,000	329,000	288,000	3,000,000	791,000	222,000	249,000	770,000	633,000	-813,000	5,910,000
2000	219,000	90,600	147,000	304,000	326,000	2,820,000	506,000	226,000	240,000	424,000	752,000	-888,000	5,170,000
2001	212,000	81,100	115,000	288,000	274,000	2,480,000	414,000	201,000	336,000	637,000	379,000	-633,000	4,780,000
2002	210,000	85,200	149,000	288,000	298,000	2,540,000	450,000	177,000	228,000	904,000	194,000	-702,000	4,820,000
2003	209,000	85,300	150,000	288,000	284,000	2,450,000	438,000	172,000	226,000	761,000	256,900	-936,000	4,380,000

W Withheld to avoid disclosing company proprietary data; data included in the miscellaneous category.

<sup>1</sup>Compiled by G.R. Matos and R.L. Virta.

# End Uses of Kaolin



## **Kaolin End-Use Worksheet Notes**

### **Data Source**

The source of data for the kaolin end-use worksheet is the Minerals Yearbook, an annual collection, compilation, and analysis of mineral industry data, published by the U.S. Bureau of Mines and the U.S. Geological Survey.

### **End Use**

End use is defined as the use of the mineral commodity in a particular industrial sector or product. For kaolin, end-use categories are:

- Ceramic, which contains
  - Catalyst (oil and gas refining)
  - Sanitaryware
  - Other ceramics which includes electrical porcelain, fine china and dinnerware, floor and wall tile, pottery, roofing granules, and unknown ceramic uses
- Glass fiber, mineral wool
- Filler, extender, and binder, which contains
  - Paint
  - Paper coating
  - Paper filling
  - Rubber
  - Other filler, extender, and binder uses which include adhesives; fertilizers; medical, pharmaceutical, and cosmetic; pesticide; plastic; and unknown filler and extender uses.
- Refractories includes firebrick, blocks, and shapes; grogs; high alumina brick and kiln furniture; foundry sand, mortar, cement, and miscellaneous refractories
- Miscellaneous uses, which includes chemical manufacturing, civil engineering, heavy clay products, portland cement, and other unknown uses
- Trade adjustments which include imports for which kaolin applications are unknown and discrepancies of exports reported by producers and exports reported by the U.S. Census Bureau.

Kaolin markets were affected by recessions of 1981–82, 1990–91, and 2001. In 1990, competition from calcium carbonate began to adversely affect paper filler sales. A downturn in writing paper manufacture affected paper coating and filler sales during the years 1983, 1992–94, and 2001–04. Refractory sales were affected by 1975 and 1981–82 recessions.

W in the spreadsheet indicates information withheld to avoid disclosing company proprietary data; data are included in the miscellaneous category. A negative number in the trade adjustments category indicates net exports of kaolin. Data are rounded to no more than three significant digits; data may not add to totals shown.

### **References**

U.S. Bureau of Mines, 1977–96, Minerals Yearbook, v. I, 1975–94.

U.S. Geological Survey, 1997–2005, Minerals Yearbook, v. I, 1995–2003.

### **Recommended Citation Format:**

(1) If taken from CD version:

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, one CD-ROM. (Also available online at [http://pubs.usgs.gov/ds/2005/140/.](http://pubs.usgs.gov/ds/2005/140/))

(2) If taken from online version:

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/.](http://pubs.usgs.gov/ds/2005/140/) (Accessed [date].)

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