

Mineral Industry Surveys

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COBALT IN JULY 2002

U.S. consumption of cobalt during January through July 2002 was 8% lower than revised consumption during the first 7 months of 2001, according to the U.S. Geological Survey (USGS). The cobalt content of U.S. imports of cobalt metal and chemicals was slightly lower during January through June 2002 than that of imports during the same period in 2001. The cobalt content of U.S. exports of unwrought cobalt and chemicals was 38% lower during January through June 2002 than that during the same period in 2001. Trade data for July 2002 will be available in a subsequent issue.

Note

With the exception of prices, all data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

New report

A new open file report, entitled Cobalt Recycling in the United States in 1998, is now available in PDF format from the following USGS web page: <http://pubs.usgs.gov/of/2002/>

of02-299/. The report defines and quantifies the flow of cobalt-bearing materials in the United States, from imports and stock releases through consumption and disposition. Particular emphasis is given to the recycling of cobalt-bearing industrial scrap (new scrap) and used products (old scrap).

Price

Prices for electrolytic cobalt, in dollars per pound, from Platts Metals Week are listed below.

<u>Date</u>	<u>Price range</u>
August 22	6.30-6.60
August 29	6.75-7.15
September 5	6.75-7.15
September 12	6.75-7.00
September 19	6.40-6.60

<u>Month</u>	<u>Average price</u>
August	6.58

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Metal 2/	Oxide and other chemical compounds 3/	Scrap	Total
2001:				
July	373 r/	117	217 r/	707 r/
August	347 r/	110	217 r/	674 r/
September	349 r/	137	217 r/	703 r/
October	371 r/	104	217 r/	692 r/
November	383 r/	105	217 r/	705 r/
December	382 r/	112	217 r/	711 r/
January-July r/	2,590 r/	936	1,520 r/	5,050 r/
January-December r/ 4/	4,420	1,510	2,610	8,540
Year p/ 5/	5,240	1,510	2,740	9,490
2002:				
January	362	98	215	674
February	349	99	215	663
March	358	105	215	677 r/
April	345	112	215	672
May	353	101	215	669
June	304 r/	113 r/	215	632 r/
July	316	105	215	636
January-July	2,390	734	1,500	4,620

p/ Preliminary. r/ Revised.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes metal powder.

3/ Data may include other cobalt materials.

4/ Data based on monthly reports.

5/ Includes annual reports.

TABLE 2
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE 1/

(Metric tons, contained cobalt)

End use	2001			2002	
	January- July	January- December 2/	Year p/ 3/	July	January- July 4/
Steel	304 r/	503 r/	624	47	332
Superalloys	2,590 r/	4,480 r/	4,850	310	2,360
Magnetic alloys	277 r/	441 r/	472	35	246
Other alloys 5/	W	W	661	W	W
Cemented carbides 6/	420 r/	720 r/	720	64	429
Chemical and ceramic uses 7/	1,280 r/	2,090 r/	2,100	154	1,080
Miscellaneous and unspecified	178 r/	302 r/	63	25	175
Total	5,050 r/	8,540 r/	9,490	636	4,620

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Data based on monthly reports.

3/ Includes annual reports.

4/ May include revisions to prior months.

5/ Includes nonferrous alloys, welding materials, and wear-resistant alloys.

6/ Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

7/ Includes catalysts, driers in paints or related usage, feed or nutritive additive, glass decolorizer, ground coat frit, pigments, and other uses.

TABLE 3
U.S. REPORTED STOCKS OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Industry 2/				U.S. Government, metal 5/
	Metal 3/	Oxide and other chemical compounds 4/	Scrap	Total	
2001:					
July	346 r/	229 r/	181 r/	756 r/	8,420
August	367 r/	246 r/	181 r/	794 r/	8,260
September	361 r/	248 r/	181 r/	790 r/	8,180
October	386 r/	240 r/	181 r/	808 r/	NA
November	372 r/	233 r/	182 r/	787 r/	NA
December 6/	382 r/	222 r/	181 r/	786 r/	7,200 e/
Yearend p/ 7/	427	242	181	851	7,200 e/
2002:					
January	415	251	134	800	NA
February	406	247	134	787	NA
March	379	257	135	771	NA
April	368 r/	247	134	749	NA
May	359	240	134	733	NA
June	354 r/	231	134	719	7,100
July	362	223	134	720	7,100

e/ Estimated. p/ Preliminary. r/ Revised. NA Not available.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Stocks reported by cobalt processors and consumers.

3/ Includes metal powder.

4/ Data may include other cobalt materials.

5/ Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

6/ Data based on monthly reports.

7/ Industry data include annual reports.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
2001:								
June	687,000	\$16,300,000	152,000	\$2,820,000	84,700	\$486,000	820,000	4,880,000
July	527,000	7/ 12,500,000	119,000	2,090,000	184,000	966,000	660,000	r/ 5,540,000
August	646,000	14,300,000	106,000	1,910,000	174,000	872,000	768,000	6,310,000
September	569,000	12,300,000	64,600	1,310,000	198,000	973,000	668,000	6,980,000
October	879,000	7/ 17,500,000	7/ 91,900	1,760,000	332,000	1,690,000	1,040,000	r/ 8,020,000
November	604,000	7/ 10,600,000	7/ 81,000	1,330,000	142,000	654,000	700,000	8,720,000
December	553,000	9,200,000	91,900	1,340,000	254,000	1,080,000	689,000	9,400,000
January-December	7,910,000	r/ 183,000,000	r/ 1,280,000	25,700,000	2,150,000	11,000,000	9,400,000	r/ XX
2002:								
January	729,000	8/ 11,500,000	8/ 101,000	1,550,000	267,000	1,220,000	877,000	877,000
February	564,000	9,020,000	148,000	2,300,000	202,000	727,000	725,000	1,600,000
March	679,000	11,000,000	162,000	2,690,000	216,000	849,000	854,000	2,460,000
April	660,000	10,700,000	79,000	1,230,000	268,000	1,080,000	790,000	3,250,000
May	723,000	12,200,000	155,000	2,310,000	176,000	801,000	885,000	4,130,000
June:								
Australia	20,000	346,000	--	--	--	--	20,000	60,000
Belgium	32,400	733,000	38,500	758,000	--	--	60,100	485,000
Brazil	20,000	363,000	--	--	--	--	20,000	200,000
Canada	92,300	1,730,000	--	--	--	--	92,300	471,000
China	--	--	--	--	--	--	--	39,000
Congo (Kinshasa)	29,900	495,000	--	--	--	--	29,900	214,000
Finland	51,100	932,000	26,000	332,000	137,000	607,000	110,000	995,000
France	3,990	231,000	1,040	31,400	--	--	4,740	27,000
Germany	--	--	5,080	89,800	--	--	3,660	11,500
Japan	2,030	40,600	--	--	6,360	90,200	3,620	16,800
Korea, Republic of	96	6,530	--	--	--	--	96	432
Morocco	20,000	298,000	--	--	--	--	20,000	56,000
Norway	99,500	1,640,000	--	--	--	--	99,500	978,000
Philippines	--	--	--	--	14,300	103,000	5,830	17,900
Russia	94,300	1,650,000	--	--	--	--	94,300	759,000
South Africa	--	--	12,000	124,000	--	--	8,640	94,800
Sweden	2,420	61,200	--	--	--	--	2,420	11,100
Switzerland	--	--	--	--	--	--	--	3
Uganda	12,300	203,000	--	--	--	--	12,300	25,200
United Kingdom	600	22,000	--	--	5,990	30,900	2,100	87,400
Zambia	72,800	1,260,000	--	--	--	--	72,800	243,000
Total	554,000	10,000,000	82,600	1,330,000	163,000	831,000	662,000	4,790,000

r/ Revised. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder.

3/ Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

4/ Customs value.

5/ Estimated from gross weights.

6/ May include revisions to prior months.

7/ Data adjusted by the U. S. Geological Survey.

8/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Other cobalt: matte, waste and scrap 2/		Wrought cobalt and cobalt articles	
	Quantity	Value 3/	Quantity	Value 3/	Quantity	Value 3/
2001:						
June	22,200	\$445,000	67,700 4/	\$888,000 4/	14,600	\$980,000
July	6,570	147,000	55,600 5/	492,000 5/	14,500	989,000
August	3,480	64,600	45,800 5/	1,050,000 5/	13,200	845,000
September	1,140	51,500	18,500 6/	515,000 6/	15,400	947,000
October	3,410	105,000	19,700 4/	395,000 4/	19,400	1,170,000
November	10,800	250,000	22,400 6/	519,000 6/	17,000	1,030,000
December	2,130	47,500	49,200 6/	1,010,000 6/	21,800	1,370,000
January-December	76,100	1,770,000	583,000	10,200,000	233,000	13,400,000
2002:						
January	6,990	152,000	73,900 7/	1,170,000 7/	23,000	925,000
February:	3,650	154,000	15,800	379,000	15,300	932,000
March	1,420	187,000	88,200	1,270,000	20,900	1,080,000
April	210	6,350	30,500	546,000	33,500	1,320,000
May	3,600	144,000	21,000	417,000	29,000	977,000
June:						
Belgium	227	3,360	--	--	642	165,000
Canada	--	--	15,500	153,000	2,090	285,000
China	--	--	--	--	17	2,160
France	--	--	45	2,950	1,500	85,600
Germany	60	3,310	200	11,900	54	2,700
Ireland	--	--	4,360	47,000	--	--
Japan	150	10,800	5,940	149,000	3,610	72,200
Switzerland	--	--	100	10,900	--	--
United Kingdom	242	7,250	1,610	9,150	5,310	242,000
Total	679	24,700	27,800	384,000	13,200	855,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes other intermediate products of cobalt metallurgy; may include other cobalt-bearing materials from which cobalt is extracted, or from which cobalt-containing chemical compounds are manufactured.

3/ Customs value.

4/ Data revised by the U.S. Census Bureau.

5/ Data adjusted by the U. S. Geological Survey.

6/ Data no longer in question.

7/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 6
U.S. EXPORTS OF COBALT MATERIALS 1/

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
2001:								
June	205,000	\$5,470,000	116,000 7/	\$1,070,000 7/	39,000	\$334,000	298,000	1,730,000
July	146,000	3,960,000	211,000 8/	1,160,000 8/	30,000	231,000	306,000	2,040,000
August	189,000	5,270,000	27,400 8/	241,000 8/	29,800	173,000	216,000	2,250,000
September	186,000	4,730,000	32,100	473,000	3,030	27,100	210,000	2,460,000
October	184,000	5,100,000	6,530	155,000	35,400	221,000	197,000	2,660,000
November	306,000	4,520,000	41,600	581,000	7,770	34,300	338,000	3,000,000
December	182,000	3,220,000	32,500	701,000	9,110	77,100	207,000	3,210,000
January-December	2,240,000	57,300,000	1,260,000	10,200,000	254,000	1,980,000	3,210,000	XX
2002:								
January	127,000	2,870,000	25,600	379,000	14,100	98,500	149,000	149,000
February	140,000	2,850,000	6,090	88,100	13,400	85,300	148,000	297,000
March	167,000	3,370,000	5,820	71,700	12,200	67,700	174,000	471,000
April	161,000	3,690,000	35,500	483,000	19,000	97,200	191,000	662,000
May	77,700	1,800,000	57,600	656,000	36,300	185,000	128,000	790,000
June	233,000	4,800,000	71,400	663,000	29,800	208,000	292,000	1,080,000

XX Not applicable.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

3/ Cobalt acetates and cobalt chlorides.

4/ Free alongside ship (f.a.s.) value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ Data verified correct by the U.S. Census Bureau.

8/ Data no longer in question.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 7
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES 1/

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value 2/	Quantity	Value 2/
2001:				
June	31,300	\$2,200,000	-- 3/	-- 3/
July	73,800	2,040,000	78,300 4/	\$342,000 4/
August	66,400	2,320,000	21,400 4/	321,000 4/
September	50,700	1,990,000	71,500 4/	446,000 4/
October	30,600	1,250,000	19,400 4/	411,000 4/
November	42,600	1,960,000	2,400 4/	58,700 4/
December	82,300	2,710,000	2,330 4/	72,000 4/
January-December	741,000	25,500,000	408,000	3,000,000
2002:				
January	46,000	1,720,000	237,000 5/	776,000 5/
February	136,000	3,070,000	2,900 5/	85,000 5/
March	55,300	1,710,000	575 5/	16,500 5/
April	106,000	2,450,000	--	--
May	74,500	2,100,000	2,910 5/	49,200 5/
June	68,100	2,340,000	2,610 5/	25,700 5/

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Free alongside ship (f.a.s.) value.

3/ Data revised to zero by the U.S. Census Bureau.

4/ Data no longer in question.

5/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.