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Mineral Industry Surveys

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CHROMIUM IN JANUARY 2005

On the basis of gross weight, consumption of chromium ferroalloys and metal in January 2005 increased 4% compared with consumption in December 2004, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. government stockpile inventory of chromium materials in January 2005, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of January 2005, and U.S. foreign trade data for selected chromium-containing materials in December 2004.

Update

The Defense National Stockpile Center (DNSC) announced the sale of 9,979 metric tons (t) of ferrochromium in February comprising 8,165 t of high-carbon ferrochromium and 1,814 t of low-carbon ferrochromium. The sale was valued at $10 million or $0.45 per pound-gross weight (Defense National Stockpile Center, 2005).

Reference Cited

Defense National Stockpile Center, 2005, Stockpile announces ferrochromium sales for February 2005: Defense National Stockpile Center, News Release DNSC-05-2571, February 7, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2004					
	October	November	December	Fourth quarter	January-December[2]	2005 January
Production:						
Stainless steel production[3]	202,000	205,000	211,000	618,000	2,000,000	217,000
Components of U.S. supply:						
Stainless steel scrap receipts	64,800	59,200	65,500	189,000	787,000	62,600
Stainless steel scrap consumption	97,400	88,800	97,900	284,000	1,120,000	91,600
Imports for consumption:						
Chromite ore	12,600	24,500	23,600	60,600	153,000	NA
Ferrochromium:						
More than 4% carbon	56,600	21,000	54,000	132,000	398,000	NA
More than 3% carbon but not more than 4% carbon	--	--	18	18	48	NA
More than 0.5%, but not more than 3% carbon	571	--	168	739	5,720	NA
Not more than 0.5% carbon	4,510	1,360	2,360	8,240	31,400	NA
Ferrochromium silicon	3,640	--	6,200	9,840	30,600	NA
Total ferroalloy imports	65,400	22,400	62,700	150,000	466,000	NA
Chromium metal[4]	846	629	841	2,320	9,610	NA
Stainless steel	76,300	78,400	89,400	244,000	811,000	NA
Stainless steel scrap	10,400	9,280	17,800	37,500	146,000	NA
Distribution of U.S. supply:						
Consumption, industry, chromium ferroalloys and metal	36,500	35,800	36,800	109,000	432,000	38,100
Exports:						
Chromite ore	823	507	771	2,100	43,100	NA
Chromium ferroalloys:						
High-carbon ferrochromium	439	396	532	1,370	6,580	NA
Low-carbon ferrochromium	127	221	82	430	1,410	NA
Ferrochromium silicon	--	--	25	25	1,150	NA
Total ferroalloy exports	565	616	639	1,820	9,140	NA
Chromium metal	58	46	51	155	931	NA
Stainless steel	30,400	23,400	25,500	79,400	323,000	NA
Stainless steel scrap	48,200	33,700	39,700	122,000	478,000	NA
Stocks at end of period:						
Consumer, industry, chromium ferroalloys and metal	11,200	11,500	12,000	XX	XX	11,300
Government stockpile:						
Chromite ore	--	--	--	XX	XX	--
Chromium ferroalloys	596,000	589,000	589,000	XX	XX	576,000
Chromium metal	6,670	6,670	6,670	XX	XX	6,190

NA Not available. XX Not applicable. -- Zero.

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

[2]May include revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]Includes waste and scrap and other.

TABLE 2

U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS[1, 2]

(Metric tons, gross weight unless otherwise noted)

	2004		2005
	December	January-December[3]	January
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	361	4,210	483
High-strength low-alloy steel	683	7,740	604
Stainless and heat-resisting steel	31,900	375,000	33,200
Full alloy steel	1,700	18,700	1,660
Electrical steel	W	W	W
Tool steel	424	5,560	430
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	707	8,840	714
Other alloys[4]	44	719	52
Total	36,800	432,000	38,100
Total, chromium content	21,300	252,000	22,000
Consumption by material:			
Low-carbon ferrochromium	1,870	23,500	2,070
High-carbon ferrochromium	31,400	366,000	32,600
Ferrochromium silicon	2,980	35,700	2,920
Chromium metal	416	4,570	396
Chromite ore	W	W	W
Chromium-aluminum alloy	26	374	26
Other chromium materials	W	W	W
Total	36,800	432,000	38,100
Total, chromium content	21,300	252,000	22,000
Consumer stocks:			
Low-carbon ferrochromium	1,970	XX	1,950
High-carbon ferrochromium	8,630	XX	7,920
Ferrochromium silicon	1,190	XX	1,150
Chromium metal	166	XX	184
Chromite ore	W	XX	W
Chromium-aluminum alloy	32	XX	33
Other chromium materials	W	XX	W
Total	12,000	XX	11,300
Total, chromium content	7,060	XX	6,610

W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

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

[2]Includes estimates.

[3]May include revised data.

[4]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromite ore Refractory	Chromium ferroalloys		Chromium metal
		High-carbon ferro-chromium	Low-carbon ferro-chromium	
2004:				
January	82,600	462,000	215,000	6,660
February	82,100	453,000	212,000	6,660
March	82,100	453,000	212,000	6,660
April	--	436,000	209,000	6,660
May	--	430,000	208,000	6,660
June	--	425,000	208,000	6,660
July	--	414,000	208,000	6,670
August	--	412,000	206,000	6,670
September	--	408,000	192,000	6,670
October	--	404,000	192,000	6,670
November	--	398,000	191,000	6,670
December	--	398,000	191,000	6,670
2005:				
January	--	386,000	190,000	6,190

-- Zero.

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2003:							
December	54,600	$4,090	502	285	$548	65	$958
January-December	103,000	7,410	4,890	2,830	5,240	941	11,900
2004:							
January	223	74	583	344	767	76	1,520
February	2,510	548	685	409	1,040	76	1,660
March	938	290	2,440	1,400	2,940	54	1,710
April	1,340	359	623	348	735	69	2,230
May	3,920	480	370	198	443	177	1,850
June	11,000	1,570	671	362	931	79	1,400
July	8,180	2,130	713	398	1,000	100	1,570
August	10,200	2,680	533	322	685	93	1,510
September	2,750	1,590	706	401	876	53	1,290
October	823	270	565	347	799	58	1,190
November	507	197	616	398	843	46	1,020
December	771	231	639	388	897	51	657
January-December	43,100	10,400	9,140	5,320	12,000	931	17,600

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

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2004			
	October	November	December	January-December[2]
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	--	--	--	--
Chromic oxide content	--	--	--	--
More than 40% but less than 46% chromic oxide:				
Gross weight	51	72	24	1,690
Chromic oxide content	23	33	11	761
46% or more chromic oxide:				
Gross weight	12,600	24,400	23,500	151,000
Chromic oxide content	5,900	11,300	11,000	71,600
Total, all grades:				
Gross weight	12,600	24,500	23,600	153,000
Chromic oxide content	5,920	11,300	11,000	72,400
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5%:				
Gross weight	4,510	1,360	2,350	31,400
Chromium content	2,820	937	1,650	21,100
More than 0.5% but not more than 3%:				
Gross weight	571	--	168	5,720
Chromium content	363	--	113	3,830
Total, low-carbon:				
Gross weight	5,080	1,360	2,520	37,100
Chromium content	3,190	937	1,760	24,900
Medium-carbon:[4]				
Gross weight	--	--	18	48
Chromium content	--	--	NA	NA
High-carbon:[5]				
Gross weight	56,600	21,000	54,000	398,000
Chromium content	32,900	10,600	30,700	223,000
Total, all grades:				
Gross weight	61,700	22,400	56,500	435,000
Chromium content	36,100	11,500	32,500	248,000
Chromium metal:				
Unwrought powders	25	58	129	1,350
Waste and scrap	8	2	--	61
Other than waste and scrap amd unwrought powders	812	569	712	8,200
Total, all grades	846	629	841	9,610

NA Not available. -- Zero.

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

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 3% carbon but not more than 4% carbon.

[5]Ferrrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE AND FERROCHROMIUM SILICON IN 2004,
BY GRADE AND BY COUNTRY[1]

Grade and country	January-December[2] Gross weight (metric tons)	Cr_2O_3 (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
Chromite ore:				
More than 40% but less than 46% chromic oxide, South Africa	1,690	761	XX	$404
46% or more chromic oxide, South Africa	151,000	71,600	XX	17,100
All grades, South Africa	153,000	72,400	XX	17,500
Ferrochromium silicon:				
Kazakhstan	26,600	XX	10,800	27,600
Russia	2,900	XX	1,260	3,170
South Africa	1,100	XX	395	720
Total	30,600	XX	12,500	31,500

XX Not applicable.

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

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 7

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2004, BY GRADE AND BY COUNTRY[1]

Grade and country	December			January-December[2]		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
High-carbon ferrochromium:[4]						
India	--	--	--	12,900	8,110	$10,400
Kazakhstan	14,900	10,100	$14,500	87,000	60,200	84,200
Russia	1,540	989	1,310	9,170	6,220	7,560
South Africa	29,100	14,600	17,900	244,000	122,000	145,000
Zimbabwe	8,470	5,050	5,630	44,600	26,500	28,200
Total	54,000	30,700	39,400	398,000	223,000	275,000
Medium-carbon ferrochromium:[5]						
China	18	NA	41	18	NA	41
South Africa	--	--	--	30	16	18
Total	18	NA	41	48	NA	59
Low-carbon ferrochromium:[6]						
More than 0.5% but not more than 3% carbon:						
China	--	--	--	20	9	42
Germany	--	--	--	63	44	72
Kazakhstan	--	--	--	2,020	1,400	3,520
Russia	168	113	261	2,100	1,450	2,830
South Africa	--	--	--	1,520	927	1,780
Total	168	113	261	5,720	3,830	8,250
Not more than 0.5% carbon:						
China	--	--	--	174	113	300
Germany	652	460	1,280	4,930	3,490	8,930
Japan	120	83	296	2,060	1,450	4,780
Kazakhstan	500	340	681	1,170	788	1,660
Mexico	--	--	--	4	2	7
Russia	1,040	756	1,420	17,900	12,400	24,600
South Africa	40	12	25	5,010	2,730	4,270
Sweden	--	--	--	19	14	63
Turkey	--	--	--	131	90	254
Total	2,350	1,650	3,700	31,400	21,100	44,900
All grades:						
China	18	20	41	213	142	383
Germany	652	460	1,280	4,990	3,530	9,010
India	--	--	--	12,900	8,110	10,400
Japan	120	83	296	2,060	1,450	4,780
Kazakhstan	15,400	10,400	15,200	90,200	62,400	89,300
Mexico	--	--	--	4	2	7
Russia	2,750	1,860	2,990	29,200	20,100	35,000
South Africa	29,200	14,600	18,000	251,000	126,000	151,000
Sweden	--	--	--	19	14	63
Turkey	--	--	--	131	90	254
Zimbabwe	8,470	5,050	5,630	44,600	26,500	28,200
Total	56,500	32,500	43,400	435,000	248,000	328,000

NA Not available. -- Zero.

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

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing more than 3% carbon but no more than 4% carbon.

[6]Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 8

U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2004, BY GRADE AND BY COUNTRY[1]

Grade and country	December		January-December[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	2	$12	242	$993
France	1	8	7	38
Germany	10	90	78	524
Japan	16	380	248	3,190
Russia	99	469	637	3,540
Spain	--	--	121	405
Taiwan	--	--	15	21
United Kingdom	--	--	3	358
Total	129	959	1,350	9,070
Waste and scrap:				
Germany	--	--	4	43
Japan	--	--	40	344
Singapore	--	--	11	76
Sweden	--	--	2	6
Taiwan	--	--	4	23
Total	--	--	61	491
Other than waste and scrap and unwrought powders:				
Austria	--	--	(4)	5
China	100	454	1,520	6,230
France	145	996	1,800	13,100
Germany	1	14	22	532
Japan	2	16	7	88
Mexico	--	--	3	9
Netherlands	--	--	19	58
Russia	344	1,770	2,530	13,500
Spain	--	--	(4)	20
Switzerland	--	--	(4)	35
Taiwan	--	--	2	15
United Kingdom	120	750	2,290	12,900
Total	712	4,000	8,200	46,500
All grades:				
Austria	--	--	(4)	5
China	102	467	1,760	7,220
France	147	1,000	1,810	13,100
Germany	11	104	105	1,100
Japan	19	396	295	3,620
Mexico	--	--	3	9
Netherlands	--	--	19	58
Russia	443	2,240	3,170	17,000
Singapore	--	--	11	76
Spain	--	--	121	424
Sweden	--	--	2	6
Switzerland	--	--	(4)	35
Taiwan	--	--	21	60
United Kingdom	120	750	2,300	13,300
Total	841	4,960	9,610	56,100

-- Zero.

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

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 9

U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2004[1]

Stainless steel product	December		January-December	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	632	$3,210	13,100	$46,500
Flat-rolled (width > 600 mm)	13,100	27,700	147,000	354,000
Flat-rolled (width < 600 mm)	6,410	17,400	94,000	278,000
Bars and rods in irregular coils	442	1,720	4,410	14,400
Other bars and rods	1,930	9,450	23,300	123,000
Wire	687	4,620	8,380	56,000
Tubes, pipes, hollow profiles	2,310	11,300	32,900	158,000
Total	25,500	75,300	323,000	1,030,000
Stainless steel scrap	39,700	48,800	478,000	548,000
Grand total	65,200	124,000	801,000	1,580,000
Imports:				
Ingot	17,100	42,100	175,000	388,000
Flat-rolled (width > 600 mm)	44,100	113,000	358,000	743,000
Flat-rolled (width < 600 mm)	4,200	13,700	43,100	140,000
Bars and rods in irregular coils	4,370	11,200	43,200	105,000
Other bars and rods	8,070	26,800	68,800	216,000
Wire	3,600	13,900	38,100	143,000
Tubes, pipes, hollow profiles	7,950	38,500	84,800	391,000
Total	89,400	259,000	811,000	2,130,000
Stainless steel scrap	17,800	11,400	146,000	160,000
Grand total	107,000	270,000	958,000	2,290,000

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

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.