

Mineral Industry Surveys

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CHROMIUM IN APRIL 2009

On the basis of gross weight, consumption of chromium ferroalloys and metal in April 2009 decreased by 5% compared with consumption in March 2009, 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 April 2009, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of April 2009, and U.S. foreign trade data for selected chromium-containing materials in March 2009.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2008	2009			
	January-December ²	February	March	April	January-April ²
Production:					
Stainless steel production ³	1,930,000	151,000	87,600	84,300	447,000
Components of U.S. supply:					
Stainless steel scrap receipts	858,000	74,400	66,900	65,400	283,000
Stainless steel scrap consumption	1,330,000	116,000	103,000	94,900	427,000
Imports for consumption:					
Chromite ore	197,000	5,140	34,600	(4)	44,900 ⁵
Ferrochromium:					
More than 4% carbon	469,000	7,620	9,250	(4)	20,500 ⁵
More than 3% carbon but not more than 4% carbon	344	215	159	(4)	595 ⁵
More than 0.5%, but not more than 3% carbon	2,250	1,380	40	(4)	1,580 ⁵
Not more than 0.5% carbon	37,000	3,720	3,110	(4)	8,330 ⁵
Ferrochromium silicon	24,200	--	--	(4)	-- ⁵
Total ferroalloy imports	533,000	12,900	12,600	(4)	31,000 ⁵
Chromium metal ⁶	13,100	646	589	(4)	1,480 ⁵
Stainless steel	783,000	32,900	35,500	(4)	111,000 ⁵
Stainless steel scrap	140,000	7,680	7,910	(4)	21,900 ⁵
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	417,000	32,900	27,200	25,700	119,000
Exports:					
Chromite ore	7,000	41	53	(4)	117 ⁵
Chromium ferroalloys:					
High-carbon ferrochromium	10,800	140	235	(4)	602 ⁵
Low-carbon ferrochromium	13,400	432	121	(4)	799 ⁵
Ferrochromium silicon	216	--	--	(4)	-- ⁵
Total ferroalloy exports	24,500	571	356	(4)	1,400 ⁵
Chromium metal	998	48	39	(4)	125 ⁵
Stainless steel	471,000	24,500	24,100	(4)	71,700 ⁵
Stainless steel scrap	1,000,000	82,000	103,000	(4)	249,000 ⁵
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	XX	10,300	9,160	9,490	XX
Government stockpile:					
Chromium ferroalloys	XX	206,000	201,000	199,000	XX
Chromium metal	XX	4,810	4,810	4,810	XX

XX Not applicable. -- Zero.

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

²May include revised data that are not broken out by specific month.

³Data 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.

⁴Data to be published in a subsequent issue.

⁵January through March data only.

⁶Includes 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)

	2009		
	March	April	January- April ³
Consumption by end use:			
Alloy uses:			
Steel:			
Carbon steel	260	259	1,070
High-strength low-alloy steel	148	148	591
Stainless and heat-resisting steel	22,600	21,200	100,000
Full alloy steel	823	783	4,270
Tool steel	416	416	1,660
Steel end use, not reported by grade	1,790	1,780	7,060
Superalloys	440	442	1,830
Other alloys and uses ⁴	695	678	2,790
Total	27,200	25,700	119,000
Total, chromium content	15,900	15,200	70,300
Consumption by material:			
Low-carbon ferrochromium	2,110	2,080	8,800
High-carbon ferrochromium	22,200	20,900	98,700
Ferrochromium silicon	W	W	W
Chromium metal ⁵	230	230	982
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	27,200	25,700	119,000
Total, chromium content	15,900	15,200	70,300
Consumer stocks:			
Low-carbon ferrochromium	1,630	1,670	XX
High-carbon ferrochromium	6,180	6,490	XX
Ferrochromium silicon	1,120	1,080	XX
Chromium metal	195	222	XX
Chromium-aluminum alloy	W	W	XX
Other chromium materials	W	W	XX
Total	9,160	9,490	XX
Total, chromium content	5,370	5,610	XX

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

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

²Includes estimates.

³May include revised data that are not broken out by specific month.

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

⁵Includes waste and scrap and other.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF
CHROMIUM MATERIALS^{1,2}

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2008:			
April	93,600	46,900	4,940
May	93,500	45,800	4,930
June	93,600	45,100	4,930
July	140,000	66,700	4,890
August	140,000	66,700	4,850
September	139,000	66,700	4,820
October	139,000	66,700	4,820
November	139,000	66,700	4,820
December	139,000	66,700	4,820
2009:			
January	138,000	66,700	4,820
February	139,000	66,700	4,810
March	135,000	66,200	4,810
April	133,000	66,200	4,810

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

²These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials D-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 D-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 D-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 METAL¹

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)
2008:							
March	582	\$282	2,260	946	\$3,600	131	\$1,940
April	778	411	4,680	1,810	6,500	80	1,610
May	369	242	4,370	2,040	10,800	129	2,040
June	325	197	2,740	1,180	6,020	128	2,540
July	818	472	899	323	1,130	110	2,210
August	678	372	1,470	544	2,060	123	2,490
September	468	446	713	291	896	33	1,460
October	958	637	2,180	927	2,830	65	1,600
November	413	371	699	254	784	45	1,120
December	475	256	217	111	304	27	984
January-December ⁴	7,000	4,370	24,500	10,300	43,100	998	20,400
2009:							
January	23	72	473	210	604	38	1,130
February	41	95	571	250	765	48	1,410
March	53	46	356	167	497	39	1,240
January-March	117	214	1,400	627	1,870	125	3,770

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

²Includes low- and high-carbon ferrochromium and ferrochromium silicon.

³Includes chromium metal, waste and scrap, and unwrought powders.

⁴May include revised data that are not broken out by specific month.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL¹

(Metric tons)

	2008		2009	
	January-December ²	February	March	January-March ²
Chromite ore:				
Not more than 40%:				
Gross weight	--	--	10,300	10,300
Chromic oxide content	--	--	2,560	2,560
More than 40% but less than 46% chromic oxide:				
Gross weight	38,400	140	210	385
Chromic oxide content	17,600	64	96	176
46% or more chromic oxide:				
Gross weight	159,000	5,000	24,100	34,200
Chromic oxide content	76,400	2,320	11,200	15,900
Total, all grades:				
Gross weight	197,000	5,140	34,600	44,900
Chromic oxide content	94,000	2,380	13,900	18,600
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5%:				
Gross weight	37,000	3,720	3,110	8,330
Chromium content	25,300	2,530	2,080	5,590
More than 0.5% but not more than 3%:				
Gross weight	2,250	1,380	40	1,580
Chromium content	1,450	785	30	928
Total, low-carbon:				
Gross weight	39,300	5,100	3,150	9,900
Chromium content	26,700	3,320	2,110	6,520
Medium-carbon: ⁴				
Gross weight	344	215	159	595
Chromium content	204	116	86	321
High-carbon: ⁵				
Gross weight	469,000	7,620	9,250	20,500
Chromium content	270,000	3,900	4,840	10,700
Total, all grades:				
Gross weight	509,000	12,900	12,600	31,000
Chromium content	297,000	7,330	7,040	17,500
Chromium metal:				
Unwrought powders	1,050	44	44	119
Waste and scrap	523	2	2	4
Other than waste and scrap and unwrought powders	11,500	600	544	1,360
Total, all grades:	13,100	646	589	1,480

-- Zero.

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

²May include revised data that are not broken out by specific month.

³Ferrochromium containing not more than 3% carbon.

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

⁵Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2009,
BY GRADE AND BY COUNTRY¹

Grade and country	March			January-March 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						
China	--	--	--	40	32	\$142
India	294	178	\$264	2,050	1,230	1,870
Kazakhstan	201	138	598	286	196	885
Russia	981	678	927	2,500	1,630	2,790
South Africa	7,770	3,840	4,100	15,600	7,590	10,700
Sweden	--	--	--	38	26	148
Total	9,250	4,840	5,890	20,500	10,700	16,600
Medium-carbon ferrochromium,⁵ Russia						
	159	86	85	595	321	318
Low-carbon ferrochromium:⁶						
More than 0.5% but not more than 3%:						
Kazakhstan	--	--	--	375	263	1,220
Russia	40	30	125	82	61	301
South Africa	--	--	--	1,120	603	1,440
Total	40	30	125	1,580	928	2,960
Not more than 0.5% carbon:						
China	180	114	523	262	165	846
Germany	459	320	1,980	882	615	3,740
Japan	--	--	--	233	159	1,320
Kazakhstan	--	--	--	53	35	193
Netherlands	--	--	--	22	16	92
Russia	2,100	1,420	6,780	5,600	3,830	19,800
South Africa	340	208	696	1,210	726	2,250
Sweden	29	19	172	75	49	340
Total	3,110	2,080	10,100	8,330	5,590	28,600
All grades:						
China	180	114	523	302	197	987
Germany	459	320	1,980	882	615	3,740
India	294	178	264	2,050	1,230	1,870
Japan	--	--	--	233	159	1,320
Kazakhstan	201	138	598	714	495	2,300
Netherlands	--	--	--	22	16	92
Russia	3,280	2,220	7,920	8,770	5,840	23,300
South Africa	8,110	4,050	4,800	17,900	8,910	14,400
Sweden	29	19	172	113	75	488
Total	12,600	7,040	16,200	31,000	17,500	48,500

-- Zero.

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

²May include revised data that are not broken out by specific month.

³Customs 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.

⁴Ferrochromium containing more than 4% carbon.

⁵Ferrochromium containing more than 3% carbon but not more than 4% carbon.

⁶Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2009,
BY GRADE AND BY COUNTRY¹

Grade and country	March		January-March ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
China	20	\$278	60	\$831
France	--	--	5	24
Germany	--	--	2	71
Russia	17	95	34	189
United Kingdom	7	208	18	433
Total	44	581	119	1,550
Waste and scrap:				
Germany	1	12	1	15
Japan	1	4	1	4
Taiwan	--	--	2	32
Total	2	16	4	51
Other than waste and scrap and unwrought powders:				
China	33	245	150	1,940
France	229	2,570	341	4,090
Germany	(4)	42	38	398
Japan	(4)	3	1	20
Kazakhstan	--	--	230	784
Russia	21	206	62	594
United Kingdom	261	3,020	538	5,960
Total	544	6,080	1,360	13,800
All grades:				
China	53	523	210	2,770
France	229	2,570	346	4,110
Germany	1	54	42	484
Japan	1	7	1	24
Kazakhstan	--	--	230	784
Russia	37	301	96	783
Taiwan	--	--	2	32
United Kingdom	268	3,230	556	6,390
Total	589	6,680	1,480	15,400

-- Zero.

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

²May include revised data that are not broken out by specific month.

³Customs 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.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2009¹

Stainless steel product	March		January-March ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	1,640	\$9,900	4,850	\$27,300
Flat-rolled (width > 600 mm)	9,980	28,400	34,100	97,300
Flat-rolled (width < 600 mm)	5,440	20,300	13,400	52,400
Bars and rods in irregular coils	268	1,640	858	4,880
Other bars and rods	2,650	18,400	7,900	54,600
Wire	796	5,760	2,130	15,900
Tubes, pipes, hollow profiles	3,290	30,700	8,480	70,400
Total	24,100	115,000	71,700	323,000
Stainless steel scrap	103,000	61,500	249,000	149,000
Grand total	127,000	177,000	320,000	471,000
Imports:				
Ingot	6,160	16,600	20,200	60,700
Flat-rolled (width > 600 mm)	11,100	24,600	36,200	90,600
Flat-rolled (width < 600 mm)	2,500	10,900	6,680	30,500
Bars and rods in irregular coils	773	2,330	2,600	8,930
Other bars and rods	5,940	28,000	17,400	86,200
Wire	2,100	10,400	6,650	32,900
Tubes, pipes, hollow profiles	6,940	73,500	20,900	202,000
Total	35,500	166,000	111,000	512,000
Stainless steel scrap	7,910	6,260	21,900	15,500
Grand total	43,400	173,000	133,000	527,000

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

²May include revised data that are not broken out by specific month.

³Export value is free alongside ship. 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.