



# Mineral Industry Surveys

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## CHROMIUM IN APRIL 2010

On the basis of gross weight, consumption of chromium ferroalloys and metal in April 2010 decreased by 5% compared with consumption in March 2010, 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 2010, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of April 2010, and U.S. foreign trade data for selected chromium-containing materials in March 2010.

TABLE 1  
U.S. SALIENT CHROMIUM STATISTICS<sup>1</sup>

(Metric tons, gross weight)

	2009		2010		
	January-December <sup>2</sup>	February	March	April	January-April <sup>2</sup>
<b>Production:</b>					
Stainless steel production <sup>3</sup>	1,620,000	183,000	230,000	225,000	846,000
<b>Components of U.S. supply:</b>					
Stainless steel scrap receipts	833,000	72,900	73,700	73,600	301,000
Stainless steel scrap consumption	1,260,000	110,000	113,000	110,000	450,000
<b>Imports for consumption:</b>					
Chromite ore	77,200	30,000	3,030	(4)	33,000 <sup>5</sup>
<b>Ferrochromium:</b>					
More than 4% carbon	198,000	20,000	46,700	(4)	122,000 <sup>5</sup>
More than 3% carbon but not more than 4% carbon	3,180	--	--	(4)	-- <sup>5</sup>
More than 0.5%, but not more than 3% carbon	2,110	200	60	(4)	360 <sup>5</sup>
Not more than 0.5% carbon	36,600	2,600	4,970	(4)	11,000 <sup>5</sup>
Ferrochromium silicon	7,560	--	3,760	(4)	8,160 <sup>5</sup>
Total ferroalloy imports	248,000	22,800	55,500	(4)	142,000 <sup>5</sup>
Chromium metal <sup>6</sup>	7,570	635	1,100	(4)	2,360 <sup>5</sup>
Stainless steel	416,000	39,400	46,200	(4)	125,000 <sup>5</sup>
Stainless steel scrap	124,000	16,400	25,400	(4)	53,600 <sup>5</sup>
<b>Distribution of U.S. supply:</b>					
Consumption, industry, chromium ferroalloys and metal	371,000	36,300 <sup>r</sup>	38,200 <sup>r</sup>	36,200	148,000
<b>Exports:</b>					
Chromite ore	2,500	330	145	(4)	711 <sup>5</sup>
<b>Chromium ferroalloys:</b>					
High-carbon ferrochromium	3,200	575	493	(4)	1,700 <sup>5</sup>
Low-carbon ferrochromium	1,560	352	202	(4)	693 <sup>5</sup>
Ferrochromium silicon	19	36	--	(4)	36 <sup>5</sup>
Total ferroalloy exports	4,780	963	696	(4)	2,430 <sup>5</sup>
Chromium metal	411	20	33	(4)	78 <sup>5</sup>
Stainless steel	414,000	34,900	53,800	(4)	121,000 <sup>5</sup>
Stainless steel scrap	1,130,000	74,200	65,700	(4)	205,000 <sup>5</sup>
<b>Stocks at end of period:</b>					
Consumer, industry, chromium ferroalloys and metal	XX	9,860	10,700 <sup>r</sup>	10,200	XX
<b>Government stockpile:</b>					
Chromium ferroalloys	XX	161,000	158,000	155,000	XX
Chromium metal	XX	4,590	4,560	4,550	XX

<sup>1</sup>Revised. XX Not applicable. -- Zero.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>May include revised data that are not broken out by specific month.

<sup>4</sup>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.

<sup>5</sup>Data to be published in a subsequent issue.

<sup>6</sup>January through March data only.

<sup>7</sup>Includes waste and scrap and other.

TABLE 2  
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS<sup>1,2</sup>

(Metric tons, gross weight unless otherwise noted)

	2010		
	March	April	January- April <sup>3</sup>
<b>Consumption by end use:</b>			
Alloy uses:			
Steel:			
Carbon steel	335 <sup>r</sup>	327	1,260
High-strength low-alloy steel	132	265	630
Stainless and heat-resisting steel	34,100	32,000	132,000
Unspecified steel <sup>4</sup>	3,080 <sup>r</sup>	3,070	12,200
Superalloys	445	479	1,810
Other alloys and uses <sup>5</sup>	114	108	442
<b>Total</b>	<b>38,200<sup>r</sup></b>	<b>36,200</b>	<b>148,000</b>
<b>Total, chromium content</b>	<b>21,900</b>	<b>21,300</b>	<b>86,200</b>
<b>Consumption by material:</b>			
Low-carbon ferrochromium	2,350 <sup>r</sup>	2,300	9,350
High-carbon ferrochromium	33,200	31,400	129,000
Ferrochromium silicon	W	W	W
Chromium metal <sup>6</sup>	256	289	1,060
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>38,200<sup>r</sup></b>	<b>36,200</b>	<b>148,000</b>
<b>Total, chromium content</b>	<b>21,900</b>	<b>21,300</b>	<b>86,200</b>
<b>Consumer stocks:</b>			
Low-carbon ferrochromium	1,830 <sup>r</sup>	1,850	XX
High-carbon ferrochromium	7,730 <sup>r</sup>	7,250	XX
Ferrochromium silicon	843	872	XX
Chromium metal	199	199	XX
Chromium-aluminum alloy	W	W	XX
Other chromium materials	W	W	XX
<b>Total</b>	<b>10,700<sup>r</sup></b>	<b>10,200</b>	<b>XX</b>
<b>Total, chromium content</b>	<b>6,210<sup>r</sup></b>	<b>6,060</b>	<b>XX</b>

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

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

<sup>2</sup>Includes estimates.

<sup>3</sup>May include revised data that are not broken out by specific month(s).

<sup>4</sup>Includes electrical, full alloy, tool, and unspecified steel end uses.

<sup>5</sup>Includes cast irons, welding and alloy hard-facing rods and materials, wear- and corrosion-resistant alloys, and aluminum, copper, magnetic, nickel, and other alloys.

<sup>6</sup>Includes waste and scrap and other.

TABLE 3  
U.S. GOVERNMENT STOCKPILE INVENTORY OF  
CHROMIUM MATERIALS<sup>1,2</sup>

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2009:			
April	133,000	66,200	4,810
May	132,000	66,000	4,810
June	128,000	65,900	4,800
July	124,000	64,000	4,790
August	120,000	63,300	4,750
September	115,000	57,900	4,700
October	114,000	57,700	4,670
November	114,000	61,900	4,670
December	113,000	61,500	4,670
2010:			
January	104,000	62,000	4,630
February	99,000	61,600	4,590
March	97,300	60,900	4,560
April	94,300	60,300	4,550

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>These 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 METAL<sup>1</sup>

Period	Chromite ore		Chromium ferroalloys <sup>2</sup>			Chromium metal <sup>3</sup>	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2009:							
March	53	\$46	356	167	\$497	39	\$1,240
April	268	187	113	68	133	15	608
May	553	326	175	74	204	22	1,020
June	116	69	518	266	700	23	847
July	179	102	441	226	578	39	1,260
August	60	39	226	132	352	59	1,540
September	208	119	301	167	423	13	796
October	286	123	581	341	1,060	47	1,270
November	639	362	334	194	492	49	1,170
December	69	69	685	394	1,020	19	1,020
January-December <sup>4</sup>	2,500	1,610	4,780	2,490	6,820	411	13,300
2010:							
January	236	148	770	428	1,090	25	855
February	330	171	963	453	1,370	20	873
March	145	94	696	356	1,230	33	1,490
January-March	711	413	2,430	1,240	3,690	78	3,220

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

<sup>2</sup>Includes low- and high-carbon ferrochromium and ferrochromium silicon.

<sup>3</sup>Includes chromium metal, waste and scrap, and unwrought powders.

<sup>4</sup>May 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 METAL<sup>1</sup>

(Metric tons)

	2009	2010		
	January-December <sup>2</sup>	February	March	January-March
<b>Chromite ore:</b>				
Not more than 40%:				
Gross weight	10,300	--	--	--
Chromic oxide content	2,560	--	--	--
More than 40% but less than 46% chromic oxide:				
Gross weight	859	24,300	1,500	25,800
Chromic oxide content	394	11,200	670	11,800
46% or more chromic oxide:				
Gross weight	66,100	5,700	1,530	7,230
Chromic oxide content	30,600	2,650	803	3,460
<b>Total, all grades:</b>				
Gross weight	77,200	30,000	3,030	33,000
Chromic oxide content	33,600	13,800	1,470	15,300
<b>Ferrochromium:</b>				
Low-carbon: <sup>3</sup>				
Not more than 0.5%:				
Gross weight	36,600	2,600	4,970	11,000
Chromium content	24,800	1,960	3,390	7,700
More than 0.5% but not more than 3%:				
Gross weight	2,110	200	60	360
Chromium content	1,280	108	32	194
<b>Total, low-carbon:</b>				
Gross weight	38,800	2,800	5,030	11,400
Chromium content	26,100	2,070	3,420	7,900
Medium-carbon: <sup>4</sup>				
Gross weight	3,180	--	--	--
Chromium content	1,720	--	--	--
High-carbon: <sup>5</sup>				
Gross weight	198,000	20,000	46,700	122,000
Chromium content	109,000	9,990	28,200	71,300
<b>Total, all grades:</b>				
Gross weight	240,000	22,800	51,700	133,000
Chromium content	137,000	12,100	31,700	79,200
<b>Chromium metal:</b>				
Unwrought powders	635	79	57	244
Waste and scrap	107	57	50	132
Other than waste and scrap and unwrought powders	6,830	500	989	1,980
<b>Total, all grades:</b>	<b>7,570</b>	<b>635</b>	<b>1,100</b>	<b>2,360</b>

-- Zero.

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

<sup>2</sup>May include revised data that are not broken out by specific month.

<sup>3</sup>Ferrochromium containing not more than 3% carbon.

<sup>4</sup>Ferrochromium containing more than 3% carbon but not more than 4% carbon.

<sup>5</sup>Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2010,  
BY GRADE AND BY COUNTRY<sup>1</sup>

Grade and country	March			January-March <sup>2</sup>		
	Gross weight (metric tons)	Chromium content (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value <sup>3</sup> (thousands)
<b>High-carbon ferrochromium:<sup>4</sup></b>						
Albania	818	539	\$1,280	947	624	\$1,560
China	5	3	9	5	3	9
India	284	186	371	284	186	371
Kazakhstan	19,900	13,900	35,700	43,300	30,100	66,500
Russia	4,150	2,580	6,320	7,930	5,070	11,000
Slovenia	100	62	139	100	62	139
South Africa	18,300	9,090	17,300	65,000	32,400	56,700
Sweden	729	469	1,120	729	469	1,120
Switzerland	96	67	124	96	67	124
Turkey	756	505	1,120	2,200	1,470	3,060
United Kingdom	5	3	11	5	3	11
Zimbabwe	1,500	842	1,590	1,500	842	1,590
Total	46,700	28,200	65,100	122,000	71,300	142,000
<b>Low-carbon ferrochromium:<sup>5</sup></b>						
More than 0.5% but not more than 3%, South Africa	60	32	106	360	194	625
<b>Not more than 0.5% carbon:</b>						
Albania	471	311	1,150	471	311	1,150
China	440	278	1,180	1,000	556	2,590
Germany	260	183	1,060	260	183	1,060
Japan	280	195	1,160	559	390	2,280
Kazakhstan	200	139	658	200	139	658
Russia	3,170	2,180	9,790	8,250	5,940	23,600
Turkey	145	104	424	263	187	805
Total	4,970	3,390	15,400	11,000	7,700	32,200
<b>All grades:</b>						
Albania	1,290	850	2,430	1,420	935	2,710
China	446	281	1,190	1,010	559	2,600
Germany	260	183	1,060	260	183	1,060
India	284	186	371	284	186	371
Japan	280	195	1,160	559	390	2,280
Kazakhstan	20,100	14,000	36,400	43,500	30,200	67,100
Russia	7,330	4,760	16,100	16,200	11,000	34,700
Slovenia	100	62	139	100	62	139
South Africa	18,300	9,120	17,400	65,400	32,600	57,300
Sweden	729	469	1,120	729	469	1,120
Switzerland	96	67	124	96	67	124
Turkey	901	609	1,540	2,460	1,650	3,870
United Kingdom	5	3	11	5	3	11
Zimbabwe	1,500	842	1,590	1,500	842	1,590
Total	51,700	31,700	80,600	133,000	79,200	175,000

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

<sup>2</sup>May include revised data that are not broken out by specific month.

<sup>3</sup>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.

<sup>4</sup>Ferrochromium containing more than 4% carbon.

<sup>5</sup>Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2010,  
BY GRADE AND BY COUNTRY<sup>1</sup>

Grade and country	March		January-March <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (metric tons)	Value <sup>3</sup> (thousands)
<b>Unwrought powders:</b>				
Canada	--	--	(4)	\$18
China	--	--	92	1,080
Germany	--	--	1	19
Russia	2	\$69	21	233
Spain	--	--	17	94
United Kingdom	55	553	113	1,150
Total	57	622	244	2,600
Waste and scrap, Mexico	50	223	132	526
<b>Other than waste and scrap and unwrought powders:</b>				
China	170	1,510	433	3,720
France	305	3,390	630	6,810
Germany	1	75	1	142
Japan	1	40	1	72
Liechtenstein	--	--	(4)	5
Mexico	--	--	(4)	7
Netherlands	8	61	8	61
Russia	224	1,860	424	3,460
United Kingdom	281	2,840	485	5,000
Total	989	9,780	1,980	19,300
<b>All grades:</b>				
Canada	--	--	(4)	18
China	170	1,510	525	4,810
France	305	3,390	630	6,810
Germany	1	75	2	161
Japan	1	40	1	72
Liechtenstein	--	5	(4)	5
Mexico	50	223	132	533
Netherlands	8	61	8	61
Russia	226	1,930	445	3,690
Spain	--	--	17	94
United Kingdom	336	3,400	598	6,160
Total	1,100	10,600	2,360	22,400

-- Zero.

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

<sup>2</sup>May include revised data that are not broken out by specific month.

<sup>3</sup>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.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8  
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2010<sup>1</sup>

Stainless steel product	March		January-March	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)
<b>Exports:</b>				
Ingot	7,940	\$10,300	10,000	\$21,400
Flat-rolled (width > 600 mm)	31,400	97,800	73,100	231,000
Flat-rolled (width < 600 mm)	6,940	27,400	17,600	66,600
Bars and rods in irregular coils	764	2,720	2,120	7,220
Other bars and rods	2,540	16,300	7,270	45,800
Wire	985	7,050	2,600	18,600
Tubes, pipes, hollow profiles	3,280	26,300	8,440	67,100
Total	53,800	188,000	121,000	458,000
Stainless steel scrap	65,700	64,500	205,000	196,000
Grand total	120,000	252,000	326,000	654,000
<b>Imports:</b>				
Ingot	8,960	27,400	20,100	65,100
Flat-rolled (width > 600 mm)	20,300	57,600	58,300	156,000
Flat-rolled (width < 600 mm)	3,440	14,300	9,840	38,900
Bars and rods in irregular coils	1,670	5,460	5,090	16,300
Other bars and rods	1,450	7,050	3,610	17,000
Wire	3,250	15,400	9,310	42,300
Tubes, pipes, hollow profiles	7,150	50,800	18,600	143,000
Total	46,200	178,000	125,000	479,000
Stainless steel scrap	25,400	38,700	53,600	81,800
Grand total	71,600	217,000	178,000	561,000

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

<sup>2</sup>Export 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.