

# Mineral Industry Surveys

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## CHROMIUM IN MARCH 2012

On the basis of gross weight, consumption of chromium ferroalloys and metal in March 2012 increased slightly compared with consumption in February 2012. Consumption in March 2012 decreased slightly compared with consumption in the March 2011.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in March 2012, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of March 2012, and U.S. foreign trade data for selected chromium-containing materials in March 2012.

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

(Metric tons, gross weight)

	2011	2012			January– March
	January– December <sup>2</sup>	January	February	March	
Production, stainless steel <sup>3</sup>	2,070,000	169,000	166,000	163,000	498,000
Components of U.S. supply:					
Stainless steel scrap receipts	866,000	72,900	73,200	71,900	218,000
Stainless steel scrap consumption	1,300,000	114,000	112,000	108,000	333,000
Imports for consumption:					
Chromite ore	191,000	40,500	4,650	38,800	83,900
Ferrochromium:					
More than 4% carbon	462,000	55,100	36,900	46,600	139,000
More than 3% but not more than 4% carbon	1,510	100	40	--	140
More than 0.5% but not more than 3% carbon	393	202	--	215	417
Not more than 0.5% carbon	53,700	4,830	3,930	4,220	13,000
Ferrochromium silicon	20,000	358	5,150	1,390	6,890
Total ferroalloy imports	538,000	60,500	46,000	52,500	159,000
Chromium metal <sup>4</sup>	13,600	1,220	1,440	1,570	4,240
Stainless steel	605,000	47,800	43,400	52,200	143,000
Stainless steel scrap	169,000	20,200	20,600	13,700	54,500
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	421,000	36,100	36,000	36,600	109,000
Exports:					
Chromite ore	5,250	803	571	455	1,830
Chromium ferroalloys:					
High-carbon ferrochromium	4,260	325	81	363	768
Low-carbon ferrochromium	1,030	34	50	29	114
Ferrochromium silicon	28	14	--	--	14
Total ferroalloy exports	5,330	374	131	391	896
Chromium metal	557	24	35	42	101
Stainless steel	558,000	46,100	50,000	54,500	151,000
Stainless steel scrap	656,000	36,700	38,700	48,200	124,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	8,940	9,840	10,200	10,100	10,100
Government stockpile:					
Chromium ferroalloys	150,000	149,000	148,000	148,000	148,000
Chromium metal	4,230	4,230	4,230	4,230	4,230

-- 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(s).

<sup>3</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>4</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)

	2012		
	February	March	January– March <sup>3</sup>
<b>Consumption by end use:</b>			
<b>Steel:</b>			
Carbon steel	325	311	959
High-strength low-alloy steel	230	263	728
Stainless and heat-resisting steel	31,200	31,800	94,100
Unspecified steel <sup>4</sup>	3,680 <sup>r</sup>	3,680	11,300
Superalloys	452	452	1,320
Other alloys and uses <sup>5</sup>	108 <sup>r</sup>	106	324
<b>Total</b>	<b>36,000 <sup>r</sup></b>	<b>36,600</b>	<b>109,000</b>
<b>Total, chromium content</b>	<b>20,900 <sup>r</sup></b>	<b>21,200</b>	<b>63,000</b>
<b>Consumption by material:</b>			
Low-carbon ferrochromium	2,420 <sup>r</sup>	2,420	7,280
High-carbon ferrochromium	31,100 <sup>r</sup>	31,600	93,900
Ferrochromium silicon	W	W	W
Chromium metal	267	268	768
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>36,000 <sup>r</sup></b>	<b>36,600</b>	<b>109,000</b>
<b>Total, chromium content</b>	<b>20,900 <sup>r</sup></b>	<b>21,200</b>	<b>63,000</b>
<b>Consumer stocks:</b>			
Low-carbon ferrochromium	1,750	1,740	1,740
High-carbon ferrochromium	7,650 <sup>r</sup>	7,520	7,520
Ferrochromium silicon	W	W	W
Chromium metal	140	140	140
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>10,200</b>	<b>10,100</b>	<b>10,100</b>
<b>Total, chromium content</b>	<b>6,060 <sup>r</sup></b>	<b>5,980</b>	<b>5,980</b>

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Total."

<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.

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	
2011:			
March	95,400	57,400	4,430
April	95,400	57,400	4,390
May	94,100	56,200	4,290
June	94,100	56,200	4,290
July	94,100	55,700	4,270
August	94,100	55,600	4,270
September	95,200	55,100	4,240
October	95,200	54,900	4,240
November	95,200	54,600	4,230
December	95,200	54,300	4,230
2012:			
January	95,200	54,100	4,230
February	95,200	53,200	4,230
March	95,200	53,000	4,230

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

<sup>2</sup>These Government stocks are reported by the Defense Logistics Agency, DLA Strategic Materials in Inventory of Stockpile Materials D-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contact. 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 Logistics Agency, DLA Strategic Materials.

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)
2011:							
March	381	\$250	282	158	\$533	61	\$1,680
April	618	411	444	236	733	80	1,560
May	318	182	831	363	1,050	49	1,050
June	216	161	693	297	803	38	978
July	375	250	294	112	517	38	1,120
August	846	513	287	159	396	31	937
September	739	491	554	281	793	66	1,150
October	370	273	143	72	212	73	1,820
November	615	394	377	151	496	31	805
December	477	333	307	165	515	44	1,250
January–December <sup>4</sup>	5,250	3,520	5,330	2,500	7,670	557	13,800
2012:							
January	803	475	374	199	417	24	891
February	571	345	131	65	244	35	1,060
March	455	292	391	210	561	42	1,150
January–March	1,830	1,110	896	473	1,220	101	3,100

<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(s).

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL<sup>1</sup>

(Metric tons)

	2011	2012		
	January– December <sup>2</sup>	February	March	January– March
<b>Chromite ore:</b>				
Not more than 40% chromic oxide:				
Gross weight	151	--	--	--
Chromic oxide content	78	--	--	--
More than 40% but less than 46% chromic oxide:				
Gross weight	27,900	--	1,500	3,000
Chromic oxide content	12,600	--	666	1,350
46% or more chromic oxide:				
Gross weight	163,000	4,650	37,300	80,900
Chromic oxide content	90,000	2,320	17,500	39,100
<b>Total, all grades:</b>				
Gross weight	191,000	4,650	38,800	83,900
Chromic oxide content	103,000	2,320	18,200	40,500
<b>Ferrocromium:</b>				
Low-carbon: <sup>3</sup>				
Not more than 0.5% carbon:				
Gross weight	53,700	3,930	4,220	13,000
Chromium content	37,100	2,710	2,890	8,920
More than 0.5% but not more than 3% carbon:				
Gross weight	393	--	215	417
Chromium content	224	--	129	245
<b>Total, low-carbon:</b>				
Gross weight	54,100	3,930	4,430	13,400
Chromium content	37,400	2,710	3,020	9,160
Medium-carbon: <sup>4</sup>				
Gross weight	1,510	40	--	140
Chromium content	855	22	--	76
High-carbon: <sup>5</sup>				
Gross weight	462,000	36,900	46,600	139,000
Chromium content	265,000	24,000	24,900	79,600
<b>Total, all grades:</b>				
Gross weight	518,000	40,900	51,100	152,000
Chromium content	304,000	26,800	27,900	88,900
<b>Chromium metal:</b>				
Unwrought powders	2,720	311	237	727
Waste and scrap	574	53	55	134
Other than waste and scrap and unwrought powders	10,300	1,080	1,280	3,380
<b>Total, all grades</b>	<b>13,600</b>	<b>1,440</b>	<b>1,570</b>	<b>4,240</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(s).

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

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

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

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2012, BY GRADE AND 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	--	--	--	988	620	\$1,310
India	2,220	1,350	\$2,780	4,780	2,900	5,900
Kazakhstan	108	75	176	19,100	13,300	25,800
Russia	6,270	3,970	9,250	13,500	8,730	19,200
South Africa	31,800	15,700	30,800	64,000	31,500	60,200
Sweden	1,950	1,310	3,780	5,610	3,770	10,700
Turkey	1,210	791	2,310	11,800	7,770	19,300
Zimbabwe	3,050	1,730	3,690	18,700	11,000	23,400
Total	46,600	24,900	52,800	139,000	79,600	166,000
<b>Medium-carbon ferrochromium:<sup>5</sup></b>						
Belgium	--	--	--	40	22	22
Russia	--	--	--	100	54	54
Total	--	--	--	140	76	76
<b>Low-carbon ferrochromium:<sup>6</sup></b>						
<b>More than 0.5% but not more than 3% carbon:</b>						
Russia	75	51	217	115	79	336
South Africa	140	77	273	302	166	610
Total	215	129	490	417	245	946
<b>Not more than 0.5% carbon:</b>						
Belgium	--	--	--	35	23	128
Brazil	--	--	--	40	13	135
China	--	--	--	20	12	98
Germany	840	582	3,780	2,040	1,390	8,760
Japan	40	28	201	299	209	1,520
Kazakhstan	--	--	--	583	414	1,550
Russia	3,120	2,130	9,930	9,360	6,430	29,300
Turkey	220	154	733	609	433	2,050
Total	4,220	2,890	14,600	13,000	8,920	43,600
<b>All grades:</b>						
Albania	--	--	--	988	620	1,310
Belgium	--	--	--	75	46	151
Brazil	--	--	--	40	13	135
China	--	--	--	20	12	98
Germany	840	582	3,780	2,040	1,390	8,760
India	2,220	1,350	2,780	4,780	2,900	5,900
Japan	40	28	201	299	209	1,520
Kazakhstan	108	75	176	19,700	13,700	27,300
Russia	9,460	6,160	19,400	23,100	15,300	48,900
South Africa	32,000	15,800	31,100	64,300	31,700	60,800
Sweden	1,950	1,310	3,780	5,610	3,770	10,700
Turkey	1,430	945	3,040	12,400	8,200	21,300
Zimbabwe	3,050	1,730	3,690	18,700	11,000	23,400
Total	51,100	27,900	67,900	152,000	88,900	210,000

-- 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(s).

<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 more than 3% but not more than 4% carbon.

<sup>6</sup>Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2012, 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>				
China	134	\$2,230	236	\$3,640
France	83	1,510	205	3,490
Germany	--	--	2	87
Japan	--	--	2	33
Russia	--	--	121	1,320
United Kingdom	19	207	162	1,840
<b>Total</b>	<b>237</b>	<b>3,940</b>	<b>727</b>	<b>10,400</b>
<b>Waste and scrap:</b>				
Japan	--	--	2	22
Mexico	48	148	124	393
Singapore	7	267	7	267
<b>Total</b>	<b>55</b>	<b>415</b>	<b>134</b>	<b>683</b>
<b>Other than waste and scrap and unwrought powders:</b>				
China	81	1,080	256	3,540
France	171	3,010	727	11,700
Germany	7	148	8	244
Japan	1	63	1	79
Liechtenstein	(4)	6	(4)	6
Russia	579	7,160	1,350	18,900
Spain	17	194	17	194
Switzerland	--	--	(4)	14
United Kingdom	426	5,870	1,020	14,100
<b>Total</b>	<b>1,280</b>	<b>17,500</b>	<b>3,380</b>	<b>48,900</b>
<b>All grades:</b>				
China	215	3,310	491	7,180
France	255	4,510	931	15,200
Germany	7	148	10	332
Japan	1	63	6	135
Liechtenstein	(4)	6	(4)	6
Mexico	48	148	124	393
Russia	579	7,160	1,470	20,200
Singapore	7	267	7	267
Spain	17	194	17	194
Switzerland	--	--	(4)	14
United Kingdom	445	6,080	1,190	16,000
<b>Total</b>	<b>1,570</b>	<b>21,900</b>	<b>4,240</b>	<b>60,000</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(s).

<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 2012<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	10,600	\$19,200	24,700	\$46,500
Flat-rolled (width > 600 mm)	26,100	89,100	74,700	253,000
Flat-rolled (width < 600 mm)	8,190	35,100	22,400	91,900
Bars and rods in irregular coils	691	3,090	1,570	6,550
Other bars and rods	4,030	31,300	12,000	97,100
Wire	1,280	9,410	3,420	25,300
Tubes, pipes, hollow profiles	3,620	32,200	11,800	104,000
Total	54,500	219,000	151,000	625,000
Stainless steel scrap	48,200	69,700	124,000	180,000
Grand total	103,000	289,000	274,000	806,000
<b>Imports:</b>				
Ingot	12,500	44,300	33,300	113,000
Flat-rolled (width > 600 mm)	23,600	73,900	62,100	189,000
Flat-rolled (width < 600 mm)	3,340	15,600	9,750	43,100
Bars and rods in irregular coils	2,510	11,000	6,860	27,500
Other bars and rods	311	1,840	825	5,110
Wire	348	2,700	798	6,780
Tubes, pipes, hollow profiles	9,610	71,600	29,800	228,000
Total	52,200	221,000	143,000	613,000
Stainless steel scrap	13,700	25,200	54,500	92,900
Grand total	66,000	246,000	198,000	706,000

<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.