



# Mineral Industry Surveys

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## CHROMIUM IN FEBRUARY 2013

On the basis of gross weight, consumption of chromium ferroalloys and metal in February 2013 decreased 4% compared with consumption in January 2013. Consumption in February 2013 decreased 5% compared with consumption in the February 2012.

Included in this Mineral Industry Surveys are U.S. salient

chromium statistics, U.S. Government stockpile inventory of chromium materials in February 2013, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of February 2013, and U.S. foreign trade data for selected chromium-containing materials in February 2013.

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

(Metric tons, gross weight)

	2012		2013		
	December	January– December <sup>2</sup>	January	February	January– February <sup>2</sup>
Production, stainless steel <sup>3</sup>	158,000	1,980,000	184,000	159,000	342,000
Components of U.S. supply:					
Stainless steel scrap receipts	67,000 <sup>r</sup>	858,000	75,800	71,900	148,000
Stainless steel scrap consumption	102,000	1,300,000	110,000 <sup>r</sup>	107,000	217,000
Imports for consumption:					
Chromite ore	35,700	277,000	6,010	6,000	12,000
Ferrochromium:					
More than 4% carbon	42,700	449,000	29,800	36,000	65,800
More than 3% but not more than 4% carbon	--	411	--	138	138
More than 0.5% but not more than 3% carbon	4,380	7,580	2,090	3,460	5,550
Not more than 0.5% carbon	2,550	43,900	3,800	2,510	6,310
Ferrochromium silicon	4,990	25,800	--	3,610	3,610
Total ferroalloy imports	54,600	526,000	35,700	45,700	81,400
Chromium metal <sup>4</sup>	1,080	15,300	669	1,120	1,790
Stainless steel	53,800	668,000	50,600	41,400	92,000
Stainless steel scrap	10,600	155,000	15,000	15,300	30,200
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	31,000	423,000	35,200	33,900	69,100
Exports:					
Chromite ore	1,300	21,200	725	5,600	6,320
Chromium ferroalloys:					
High-carbon ferrochromium	633	4,460	171	538	709
Low-carbon ferrochromium	39	768	--	42	42
Ferrochromium silicon	8	64	--	--	--
Total ferroalloy exports	680	5,300	171	580	751
Chromium metal	18	462	42	43	86
Stainless steel	49,000	590,000	53,300	47,800	101,000
Stainless steel scrap	51,200	624,000	50,900	54,000	105,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	9,280	9,280	10,400	10,500	10,500
Government stockpile:					
Chromium ferroalloys	144,000	144,000	142,000	141,000	141,000
Chromium metal	4,090	4,090	4,090	4,090	4,090

<sup>r</sup>Revised. -- 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)

	2013		
	January	February	January– February <sup>3</sup>
<b>Consumption by end use:</b>			
<b>Steel:</b>			
Carbon steel	209 <sup>r</sup>	152	361
High-strength low-alloy steel	150	142	292
Stainless and heat-resisting steel	31,300	30,200	61,500
Unspecified steel <sup>4</sup>	2,920	2,820	5,740
Superalloys	497	496	993
Other alloys and uses <sup>5</sup>	108	107	215
<b>Total</b>	<b>35,200</b>	<b>33,900</b>	<b>69,100</b>
<b>Total, chromium content</b>	<b>20,200</b>	<b>19,500</b>	<b>39,700</b>
<b>Consumption by material:</b>			
Low-carbon ferrochromium	1,780	1,690	3,470
High-carbon ferrochromium	30,900	29,700	60,600
Ferrochromium silicon	W	W	W
Chromium metal	228	224	452
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>35,200</b>	<b>33,900</b>	<b>69,100</b>
<b>Total, chromium content</b>	<b>20,200</b>	<b>19,500</b>	<b>39,700</b>
<b>Consumer stocks:</b>			
Low-carbon ferrochromium	1,620	1,650	1,650
High-carbon ferrochromium	7,980	8,060	8,060
Ferrochromium silicon	W	W	W
Chromium metal	141	141	141
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>10,400</b>	<b>10,500</b>	<b>10,500</b>
<b>Total, chromium content</b>	<b>6,130</b>	<b>6,200</b>	<b>6,200</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	
2012:			
February	95,200	53,200	4,230
March	95,200	53,000	4,230
April	95,200	52,200	4,090
May	95,200	52,000	4,090
June	95,200	52,000	4,090
July	95,200	51,500	4,090
August	95,200	51,500	4,090
September	95,200	50,800	4,090
October	95,200	50,500	4,090
November	95,200	50,000	4,090
December	94,300	49,400	4,090
2013:			
January	93,400	48,400	4,090
February	92,500	48,100	4,090

<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)
2012:							
February	571	\$345	131	65	\$244	35	\$1,060
March	455	292	391	210	561	42	1,150
April	1,290	1,090	479	277	641	53	1,210
May	673	377	460	251	664	46	1,170
June	11,400	3,550	528	315	687	34	1,240
July	886	538	309	155	498	43	1,240
August	1,410	1,030	105	43	148	48	1,250
September	605	427	503	268	788	36	1,090
October	542	330	442	221	644	66	1,330
November	1,210	782	893	332	1,050	19	746
December	1,300	644	680	271	910	18	630
January–December <sup>4</sup>	21,200	9,870	5,300	2,610	7,250	462	13,000
2013:							
January	725	549	171	78	239	42	984
February	5,600	936	580	280	667	43	1,390
January–February <sup>4</sup>	6,320	1,490	751	358	906	86	2,370

<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)

	2012		2013	
	January– December <sup>2</sup>	January	February	January– February <sup>2</sup>
<b>Chromite ore:</b>				
Not more than 40% chromic oxide:				
Gross weight	--	--	--	--
Chromic oxide content	--	--	--	--
More than 40% but less than 46% chromic oxide:				
Gross weight	29,000	--	1,500	1,500
Chromic oxide content	12,900	--	661	661
46% or more chromic oxide:				
Gross weight	248,000	6,010	4,500	10,500
Chromic oxide content	120,000	2,900	2,290	5,190
<b>Total, all grades:</b>				
Gross weight	277,000	6,010	6,000	12,000
Chromic oxide content	133,000	2,900	2,950	5,850
<b>Ferrochromium:</b>				
Low-carbon: <sup>3</sup>				
Not more than 0.5% carbon:				
Gross weight	43,900	3,800	2,510	6,310
Chromium content	30,300	2,600	1,560	4,160
More than 0.5% but not more than 3% carbon:				
Gross weight	7,580	2,090	3,460	5,550
Chromium content	5,150	1,370	2,370	3,730
<b>Total, low-carbon:</b>				
Gross weight	51,500	5,890	5,960	11,900
Chromium content	35,500	3,970	3,930	7,900
Medium-carbon: <sup>4</sup>				
Gross weight	411	--	138	138
Chromium content	222	--	74	74
High-carbon: <sup>5</sup>				
Gross weight	449,000	29,800	36,000	65,800
Chromium content	257,000	15,600	22,000	37,600
<b>Total, all grades:</b>				
Gross weight	500,000	35,700	42,100	77,800
Chromium content	293,000	19,500	26,000	45,600
<b>Chromium metal:</b>				
Unwrought powders	3,060	174	333	507
Waste and scrap	415	3	4	7
Other than waste and scrap and unwrought powders	11,800	491	783	1,270
<b>Total, all grades</b>	<b>15,300</b>	<b>669</b>	<b>1,120</b>	<b>1,790</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>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 2013, BY GRADE AND COUNTRY<sup>1</sup>

Grade and country	February			January–February <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>						
Kazakhstan	17,400	12,000	\$20,500	19,800	13,700	\$23,200
Russia	3,660	2,350	4,590	4,250	2,760	5,470
South Africa	14,400	7,310	13,200	39,100	19,400	34,600
Sweden	583	366	979	2,570	1,700	5,030
Turkey	--	--	--	95	63	132
Total	36,000	22,000	39,300	65,800	37,600	68,400
<b>Medium-carbon ferrochromium:<sup>5</sup></b>						
Russia	138	74	74	138	74	74
<b>Low-carbon ferrochromium:<sup>5</sup></b>						
<b>More than 0.5% but not more than 3% carbon:</b>						
Germany	--	--	--	1,910	1,270	2,780
Kazakhstan	1,340	921	3,480	1,340	921	3,480
Russia	2,000	1,380	5,360	2,000	1,380	5,360
South Africa	120	65	256	300	164	634
Total	3,460	2,370	9,100	5,550	3,730	12,300
<b>Not more than 0.5% carbon:</b>						
Brazil	60	37	147	60	37	147
Germany	626	441	2,790	851	600	3,790
Japan	15	11	64	295	205	1,370
Kazakhstan	405	106	585	405	106	585
Russia	1,360	939	4,020	4,380	2,990	12,700
Turkey	40	28	135	320	226	1,030
Total	2,510	1,560	7,740	6,310	4,160	19,600
<b>All grades:</b>						
Brazil	60	37	147	60	37	147
Germany	626	441	2,790	2,760	1,870	6,570
Japan	15	11	64	295	205	1,370
Kazakhstan	19,100	13,000	24,600	21,500	14,700	27,200
Russia	7,150	4,740	14,000	10,800	7,200	23,600
South Africa	14,500	7,380	13,400	39,400	19,600	35,200
Sweden	583	366	979	2,570	1,700	5,030
Turkey	40	28	135	415	290	1,160
Total	42,100	26,000	56,200	77,800	45,600	100,000

-- 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 not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2013, BY GRADE AND BY COUNTRY<sup>1</sup>

Grade and country	February		January–February <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>				
Belgium	38	\$570	38	\$570
China	171	2,130	253	3,450
France	38	593	76	1,110
Germany	1	55	6	193
Korea, Republic of	--	--	(4)	2
Russia	80	802	118	1,550
United Kingdom	5	78	15	329
Total	333	4,220	507	7,200
<b>Waste and scrap:</b>				
Canada	3	17	6	34
Japan	1	7	1	7
Total	4	24	7	41
<b>Other than waste and scrap and unwrought powders:</b>				
Canada	(4)	7	(4)	7
China	143	1,580	265	3,110
France	210	2,850	381	4,950
Germany	21	264	21	347
Liechtenstein	(4)	3	(4)	14
Netherlands	--	--	3	29
Russia	300	3,000	420	4,220
Spain	--	--	9	43
United Kingdom	110	1,430	174	2,360
Total	783	9,130	1,270	15,100
<b>All grades:</b>				
Belgium	38	570	38	570
Canada	3	24	6	42
China	313	3,710	518	6,560
France	247	3,440	457	6,060
Germany	22	320	27	540
Japan	1	7	1	7
Korea, Republic of	--	--	(4)	2
Liechtenstein	(4)	3	(4)	14
Netherlands	--	--	3	29
Russia	380	3,800	538	5,760
Spain	--	--	9	43
United Kingdom	115	1,510	190	2,690
Total	1,120	13,400	1,790	22,300

-- 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 2013<sup>1</sup>

Stainless steel product	February		January-February <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (metric tons)	Value <sup>3</sup> (thousands)
<b>Exports:</b>				
Ingot	9,340	\$11,000	18,600	\$25,800
Flat-rolled (width > 600 mm)	24,300	74,100	52,000	160,000
Flat-rolled (width < 600 mm)	6,570	26,800	13,600	54,400
Bars and rods in irregular coils	551	1,750	1,110	3,510
Other bars and rods	2,940	23,100	6,630	51,300
Wire	1,140	7,820	2,260	15,800
Tubes, pipes, hollow profiles	3,000	25,000	6,930	57,100
Total	47,800	170,000	101,000	368,000
Stainless steel scrap	54,000	64,100	105,000	122,000
Grand total	102,000	234,000	206,000	490,000
<b>Imports:</b>				
Ingot	8,980	28,200	16,300	49,400
Flat-rolled (width > 600 mm)	19,500	52,300	47,400	129,000
Flat-rolled (width < 600 mm)	2,880	12,400	5,810	25,400
Bars and rods in irregular coils	2,020	6,870	4,610	14,900
Other bars and rods	471	3,160	925	5,970
Wire	454	3,120	966	6,950
Tubes, pipes, hollow profiles	7,120	52,000	16,000	116,000
Total	41,400	158,000	92,000	347,000
Stainless steel scrap	15,300	21,200	30,200	42,300
Grand total	56,700	179,000	122,000	390,000

<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(s).

<sup>3</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.