

# Mineral Industry Surveys

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## CHROMIUM IN MAY 2016

On the basis of gross quantity, consumption of chromium ferroalloys and metal in May 2016 decreased 3% compared with that of April 2016. Consumption in May 2016 decreased 4% compared with that of May 2015.

According to CRU Group, U.S. high-carbon (60%–70% chromium) ferrochromium (FeCr) price was 92.00 cents per pound of contained chromium in May 2016, compared with 92.50 cents per pound of contained chromium in April 2016. U.S. charge-grade FeCr (47%–55% chromium) price was 89.00 cents per pound of contained chromium in May 2016, unchanged from April 2016 (CRU Group, 2016).

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### Reference Cited

CRU Group, 2016, CRU Prices\_Chrome\_Historical Data\_01 Jun 2016 (May Avg.): CRU Group, June 1. (Accessed June 3, 2016, via <http://www.crugroup.com/>.)

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

(Metric tons, gross weight)

	2015	2016			
	January– December <sup>p</sup>	March	April	May	January– May <sup>2</sup>
Production, stainless steel <sup>3</sup>	2,350,000	173,000	203,000	197,000	930,000
Components of U.S. supply:					
Stainless steel scrap receipts	907,000	75,900	76,000	75,300	377,000
Stainless steel scrap consumption	1,330,000	112,000	114,000	112,000	560,000
Imports for consumption:					
Chromite ore	131,000	24,600	2,190	10,200	54,100
Ferrochromium:					
More than 4% carbon	347,000	10,600	34,800	59,500	205,000
More than 3% but not more than 4% carbon	2,590	--	--	--	405
More than 0.5% but not more than 3% carbon	3,960	617	175	802	3,950
Not more than 0.5% carbon	48,400	3,750	2,710	2,420	12,200
Ferrochromium silicon	5,810	1,400	297	297	5,720
Total ferroalloy imports	408,000	16,400	38,000	63,000	228,000
Chromium metal <sup>4</sup>	12,900	960	1,360	988	5,390
Stainless steel	700,000	58,000	54,800	45,900	248,000
Stainless steel scrap	192,000	22,600	24,700	21,200	103,000
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	417,000	33,600	34,600	33,600	171,000
Exports:					
Chromite ore	7,210	257	390	101	1,160
Chromium ferroalloys:					
High-carbon ferrochromium	740	105	26	5	249
Low-carbon ferrochromium	279	156	18	260	478
Ferrochromium silicon	73	--	--	--	--
Total ferroalloy exports	1,090	261	44	265	726
Chromium metal	800	31	39	52	179
Stainless steel	809,000	60,900	73,900	69,900	334,000
Stainless steel scrap	520,000	37,200	40,200	92,000	326,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	10,100	10,000	9,860	9,860	9,860
Government stockpile:					
Chromium ferroalloys	95,700	93,900	93,400	92,900	92,900
Chromium metal	3,960	3,910	3,910	3,910	3,910

<sup>p</sup>Preliminary. -- 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)

	2016		
	April	May	January– May <sup>3</sup>
<b>Consumption by end use:</b>			
<b>Steel:</b>			
Carbon steel	187	171	893
High-strength low-alloy steel	131	130	663
Stainless and heat-resisting steel	31,000	30,000	153,000
Unspecified steel <sup>4</sup>	2,720	2,720	13,600
Superalloys	431	428	2,140
Other alloys and uses <sup>5</sup>	95	90	494
<b>Total</b>	<b>34,600</b>	<b>33,600</b>	<b>171,000</b>
<b>Total, chromium content</b>	<b>19,800</b>	<b>19,300</b>	<b>98,000</b>
<b>Consumption by material:</b>			
Low-carbon ferrochromium	1,800	1,780	8,940
High-carbon ferrochromium	30,200	29,300	149,000
Ferrochromium silicon	W	W	W
Chromium metal	157	161	797
Chromite ore	5	7	66
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>34,600</b>	<b>33,600</b>	<b>171,000</b>
<b>Total, chromium content</b>	<b>19,800</b>	<b>19,300</b>	<b>98,000</b>
<b>Consumer stocks:</b>			
Low-carbon ferrochromium	1,490	1,450	1,450
High-carbon ferrochromium	7,500	7,560	7,560
Ferrochromium silicon	771	750	750
Chromium metal	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>9,860</b>	<b>9,860</b>	<b>9,860</b>
<b>Total, chromium content</b>	<b>5,740</b>	<b>5,760</b>	<b>5,760</b>

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</sup>

(metric tons)

	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2015:			
May	67,100	33,700	3,960
June	64,100	33,400	3,960
July	63,000	33,300	3,960
August	63,000	32,200	3,960
September	63,000	32,900	3,960
October	63,000	32,900	3,960
November	63,000	32,600	3,960
December	63,000	32,600	3,960
2016:			
January	62,100	32,500	3,930
February	62,100	32,300	3,930
March	61,600	32,300	3,910
April	61,200	32,200	3,910
May	60,700	32,200	3,910

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

Source: Defense Logistics Agency, DLA Strategic Materials.

TABLE 4  
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL<sup>1</sup>

	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)
2015:							
May	1,990	\$1,530	27	16	\$60	97	\$1,040
June	1,250	688	22	13	46	32	821
July	180	96	70	33	115	48	1,380
August	188	106	26	15	48	55	1,330
September	95	50	120	53	154	31	937
October	74	42	91	35	160	38	1,320
November	185	169	67	32	141	50	1,490
December	316	621	83	41	144	25	973
January–December <sup>4</sup>	7,210	5,680	1,090	545	1,860	800	15,700
2016:							
January	186	121	83	50	114	25	1,100
February	227	124	73	35	108	32	1,000
March	257	173	261	160	409	31	970
April	390	269	44	27	91	39	1,330
May	101	39	265	121	427	52	1,580
January–May <sup>4</sup>	1,160	727	726	393	1,150	179	5,980

<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)

	2015	2016		
	January– December	April	May	January– May <sup>2</sup>
<b>Chromite ore:</b>				
<b>More than 40% but less than 46% chromic oxide:</b>				
Gross weight	34,600	1,790	92	3,520
Chromic oxide content	15,100	751	39	1,520
<b>46% or more chromic oxide:</b>				
Gross weight	96,100	407	10,100	50,600
Chromic oxide content	66,700	213	4,700	23,500
<b>Total, all grades:</b>				
Gross weight	131,000	2,190	10,200	54,100
Chromic oxide content	81,800	964	4,740	25,000
<b>Ferrochromium:</b>				
<b>Low-carbon:<sup>3</sup></b>				
<b>Not more than 0.5% carbon:</b>				
Gross weight	48,400	2,710	2,420	12,200
Chromium content	32,800	1,780	1,610	7,970
<b>More than 0.5% but not more than 3% carbon:</b>				
Gross weight	3,960	175	802	3,950
Chromium content	2,660	113	502	2,520
<b>Total, low-carbon:</b>				
Gross weight	52,400	2,890	3,220	16,100
Chromium content	35,500	1,890	2,110	10,500
<b>Medium-carbon:<sup>4</sup></b>				
Gross weight	2,590	--	--	405
Chromium content	1,320	--	--	218
<b>High-carbon:<sup>5</sup></b>				
Gross weight	347,000	34,800	59,500	205,000
Chromium content	189,000	17,700	29,600	112,000
<b>Total, all grades:</b>				
Gross weight	402,000	37,700	62,700	222,000
Chromium content	226,000	19,600	31,700	123,000
<b>Chromium metal:</b>				
Unwrought powders	4,840	435	508	2,440
Waste and scrap	153	6	26	44
Other than waste and scrap and unwrought powders	7,890	920	455	2,900
Total, all grades	12,900	1,360	988	5,390

-- 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 2016, BY GRADE AND COUNTRY<sup>1</sup>

Grade and country	May			January–May <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	254	171	\$304	668	453	\$783
Brazil	321	172	207	939	499	606
India	998	604	969	3,570	2,210	3,430
Kazakhstan	260	180	319	22,300	18,800	22,100
Oman	702	422	621	702	422	621
Russia	59	40	116	3,060	1,990	4,130
South Africa	56,600	27,800	38,100	168,000	83,800	119,000
Sweden	--	--	--	653	437	720
Turkey	300	195	305	2,490	1,590	2,480
Zimbabwe	--	--	--	3,170	1,820	3,200
Total	59,500	29,600	40,900	205,000	112,000	157,000
<b>Medium-carbon ferrochromium, South Africa<sup>5</sup></b>						
	--	--	--	405	218	216
<b>Low-carbon ferrochromium:<sup>6</sup></b>						
<b>More than 0.5% but not more than 3% carbon:</b>						
Brazil	513	315	1,010	2,270	1,390	4,400
China	289	186	602	928	599	1,940
Hong Kong	--	--	--	25	15	47
Kazakhstan	--	--	--	728	513	2,140
Total	802	502	1,610	3,950	2,520	8,530
<b>Not more than 0.5% carbon:</b>						
Brazil	262	134	433	3,360	1,850	6,220
China	549	351	1,260	1,340	849	2,910
Germany	500	350	1,920	2,140	1,490	8,390
India	28	18	125	63	40	295
Japan	319	225	1,350	754	530	3,020
Kazakhstan	--	--	--	1,540	1,110	4,300
Mexico	7	4	27	10	7	42
Netherlands	--	--	--	40	30	104
Russia	644	451	1,640	1,790	1,270	4,850
Turkey	108	75	257	1,150	795	3,080
United Kingdom	--	--	--	1	1	8
Total	2,420	1,610	7,000	12,200	7,970	33,200
<b>All grades:</b>						
Albania	254	171	304	668	453	783
Brazil	1,100	621	1,650	6,570	3,740	11,200
China	837	537	1,860	2,270	1,450	4,850
Germany	500	350	1,920	2,140	1,490	8,390
Hong Kong	--	--	--	25	15	47
India	1,030	622	1,090	3,640	2,250	3,730
Japan	319	225	1,350	754	530	3,020
Kazakhstan	260	180	319	24,600	20,400	28,500
Mexico	7	4	27	10	7	42
Netherlands	--	--	--	40	30	104
Oman	702	422	621	702	422	621
Russia	703	492	1,750	4,850	3,260	8,980
South Africa	56,600	27,800	38,100	168,000	84,000	119,000
Sweden	--	--	--	653	437	720
Turkey	408	270	561	3,640	2,390	5,570
United Kingdom	--	--	--	1	1	8
Zimbabwe	--	--	--	3,170	1,820	3,200
Total	62,700	31,700	49,600	222,000	123,000	199,000

(See footnotes at end of table)

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2016, BY GRADE AND COUNTRY<sup>1</sup>

Grade and country	May			January–May <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)

-- 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% carbon 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 2016, BY GRADE AND BY COUNTRY<sup>1</sup>

Grade and country	May		January–May <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	107	\$1,030	484	\$6,140
France	25	309	434	4,840
Germany	--	--	5	143
Japan	35	386	37	424
Malaysia	--	--	(4)	4
Russia	111	751	249	1,770
United Kingdom	230	2,170	1,240	12,400
Total	508	4,650	2,440	25,800
<b>Waste and scrap:</b>				
Canada	2	8	5	15
China	1	15	1	15
India	--	--	(4)	4
Japan	2	73	5	123
United Kingdom	20	110	32	286
Total	26	206	44	443
<b>Other than waste and scrap and unwrought powders:</b>				
Canada	23	1,620	123	8,670
China	64	371	269	2,090
France	153	2,130	686	8,410
Germany	18	178	276	1,740
Hong Kong	--	--	(4)	2
Japan	1	40	5	205
Malaysia	--	--	(4)	13
Netherlands	--	--	(4)	40
New Zealand	--	--	(4)	15
Russia	138	932	1,360	9,580
Spain	48	329	119	822
Switzerland	--	--	(4)	21
Taiwan	(4)	3	(4)	5
United Kingdom	11	135	60	640
Total	455	5,740	2,900	32,300
<b>All grades:</b>				
Canada	25	1,630	128	8,690
China	173	1,420	755	8,250
France	177	2,440	1,120	13,200
Germany	18	178	280	1,880
Hong Kong	--	--	(4)	2
India	--	--	(4)	4
Japan	38	498	47	752
Malaysia	--	--	(4)	17
Netherlands	--	--	(4)	40
New Zealand	--	--	(4)	15
Russia	249	1,680	1,610	11,400
Spain	48	329	119	822
Switzerland	--	--	(4)	21
Taiwan	(4)	3	(4)	5
United Kingdom	261	2,420	1,330	13,400
Total	988	10,600	5,390	58,500

-- 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 2016<sup>1</sup>

Stainless steel product	May		January–May <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	1,940	\$9,450	13,100	\$56,600
Flat-rolled (width > 600 mm)	51,900	87,800	246,000	416,000
Flat-rolled (width < 600 mm)	6,970	28,100	34,200	133,000
Bars and rods in irregular coils	1,330	3,760	5,700	17,100
Other bars and rods	3,700	26,900	15,300	119,000
Wire	853	9,830	3,910	49,700
Tubes, pipes, hollow profiles	3,230	28,300	15,600	137,000
Total	69,900	194,000	334,000	929,000
Stainless steel scrap	92,000	39,000	326,000	181,000
Grand total	162,000	233,000	660,000	1,110,000
<b>Imports:</b>				
Ingot	8,580	34,400	38,400	189,000
Flat-rolled (width > 600 mm)	19,500	41,200	122,000	250,000
Flat-rolled (width < 600 mm)	5,650	18,100	28,400	90,900
Bars and rods in irregular coils	2,910	6,940	13,100	34,300
Other bars and rods	277	1,630	2,080	9,620
Wire	475	2,710	3,510	18,800
Tubes, pipes, hollow profiles	8,580	53,900	40,200	236,000
Total	45,900	159,000	248,000	828,000
Stainless steel scrap	21,200	14,900	103,000	59,400
Grand total	67,100	174,000	351,000	887,000

<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.