

# Mineral Industry Surveys

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## CHROMIUM IN AUGUST 2016

On the basis of domestic reported consumption, consumption of chromium ferroalloys and metal in August 2016 was about the same as that of July 2016. Consumption in August 2016 decreased by 4% compared with that of August 2015.

According to CRU Group, U.S. high-carbon (60%–70% chromium) ferrochromium (FeCr) price was 91.278 cents per pound of contained chromium in August 2016, compared with 92.000 cents per pound of contained chromium in July 2016. The U.S. charge-grade FeCr (47%–55% chromium) price was 89.00 cents per pound of contained chromium in August 2016, unchanged from that of July 2016 (CRU Group, 2016).

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### Reference Cited

CRU Group, 2016, CRU prices\_chrome\_historical data\_31 Oct 2016 (Oct avg.): CRU Group, October 31. (Accessed November 17, 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>	June	July	August	January– August <sup>2</sup>
Production, stainless steel <sup>3</sup>	2,350,000	213,000	212,000	234,000	1,590,000
Components of U.S. supply:					
Stainless steel scrap receipts	907,000	75,300	72,800 <sup>r</sup>	72,800	598,000
Stainless steel scrap consumption	1,330,000	113,000	112,000 <sup>r</sup>	112,000	896,000
Imports for consumption:					
Chromite ore	131,000	1,610	34,300	2,430	92,500
Ferrochromium:					
More than 4% carbon	348,000	8,100	49,200	25,900	289,000
More than 3% but not more than 4% carbon	2,590	--	225	4,540	5,170
More than 0.5% but not more than 3% carbon	3,960	513	743	1,080	6,290
Not more than 0.5% carbon	48,300	2,730	4,040	3,420	22,400
Ferrochromium silicon	5,810	594	--	986	7,300
Total ferroalloy imports	408,000	11,900	54,200	35,900	330,000
Chromium metal <sup>4</sup>	12,800	980	1,220	985	8,580
Stainless steel	1,030,000	51,500	76,500	76,500	598,000
Stainless steel scrap	192,000	24,000	26,100	27,900	181,000
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	417,000	33,400	33,500	33,600	271,000
Exports:					
Chromite ore	7,210	208	159	113	1,640
Chromium ferroalloys:					
High-carbon ferrochromium	723	57	51	119	476
Low-carbon ferrochromium	279	87	7	65	637
Ferrochromium silicon	73	--	--	20	20
Total ferroalloy exports	1,080	145	58	205	1,130
Chromium metal	801	98	42	42	362
Stainless steel	828,000	67,600	65,900	66,900	541,000
Stainless steel scrap	514,000	36,600	56,800	65,300	485,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	10,100	10,200	9,520	9,500	9,500
Government stockpile:					
Chromium ferroalloys	95,700	91,300	88,800	88,500	88,500
Chromium metal	3,960	3,910	3,910	3,910	3,910

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

	2016		
	July	August	January– August <sup>3</sup>
<b>Consumption by end use:</b>			
<b>Steel:</b>			
Carbon steel	147	199	1,410
High-strength low-alloy steel	131	130	1,050
Stainless and heat-resisting steel	30,000	30,000	243,000
Unspecified steel <sup>4</sup>	2,720	2,720	21,700
Superalloys	429	424	3,430
Other alloys and uses <sup>5</sup>	104	116	809
<b>Total</b>	<b>33,500</b>	<b>33,600</b>	<b>271,000</b>
<b>Total, chromium content</b>	<b>19,300</b>	<b>19,300</b>	<b>156,000</b>
<b>Consumption by material:</b>			
Low-carbon ferrochromium	1,730	1,780	14,200
High-carbon ferrochromium	29,200	29,200	236,000
Ferrochromium silicon	W	W	W
Chromium metal	159	158	1,270
Chromite ore	11	26	114
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>33,500</b>	<b>33,600</b>	<b>271,000</b>
<b>Total, chromium content</b>	<b>19,300</b>	<b>19,300</b>	<b>156,000</b>
<b>Consumer stocks:</b>			
Low-carbon ferrochromium	1,470	1,450	1,450
High-carbon ferrochromium	7,180	7,160	7,160
Ferrochromium silicon	777	785	785
Chromium metal	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>9,520</b>	<b>9,500</b>	<b>9,500</b>
<b>Total, chromium content</b>	<b>5,560</b>	<b>5,550</b>	<b>5,550</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:			
August	63,000	33,200	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
June	60,300	31,000	3,910
July	57,900	30,900	3,910
August	57,700	30,900	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:							
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	1,080	533	1,820	801	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
June	208	157	145	80	226	98	2,040
July	159	84	58	35	98	42	1,060
August	113	57	205	99	225	42	1,150
January–August <sup>4</sup>	1,640	1,030	1,130	606	1,700	362	10,200

<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	July	August	January– August <sup>2</sup>
<b>Chromite ore:</b>				
More than 40% but less than 46% chromic oxide:				
Gross weight	34,600	16,200	598	20,700
Chromic oxide content	15,100	7,450	251	9,370
46% or more chromic oxide:				
Gross weight	96,100	18,100	1,840	71,800
Chromic oxide content	66,700	9,160	856	34,600
Total, all grades:				
Gross weight	131,000	34,300	2,430	92,500
Chromic oxide content	81,800	16,600	1,110	43,900
<b>Ferrochromium:</b>				
Low-carbon: <sup>3</sup>				
Not more than 0.5% carbon:				
Gross weight	48,300	4,040	3,420	22,400
Chromium content	32,800	2,700	2,310	14,700
More than 0.5% but not more than 3% carbon:				
Gross weight	3,960	743	1,080	6,290
Chromium content	2,660	457	693	3,990
Total, low-carbon:				
Gross weight	52,300	4,790	4,500	28,700
Chromium content	35,400	3,160	3,010	18,700
Medium-carbon: <sup>4</sup>				
Gross weight	2,590	225	4,540	5,170
Chromium content	1,320	121	2,310	2,650
High-carbon: <sup>5</sup>				
Gross weight	348,000	49,200	25,900	289,000
Chromium content	189,000	27,900	13,200	158,000
Total, all grades:				
Gross weight	402,000	54,200	35,000	322,000
Chromium content	226,000	31,100	18,500	179,000
<b>Chromium metal:</b>				
Unwrought powders	4,820	531	297	3,500
Waste and scrap	153	42	19	134
Other than waste and scrap and unwrought powders	7,870	650	669	4,940
Total, all grades	12,800	1,220	985	8,580

<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	August			January–August <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	155	105	\$175	828	561	\$967
Brazil	--	--	--	1,040	554	687
India	971	596	937	5,570	3,430	5,320
Kazakhstan	1,700	1,190	1,960	28,500	23,100	29,400
Oman	540	326	492	2,900	1,730	2,660
Russia	--	--	--	3,220	2,100	4,350
South Africa	22,400	10,900	15,000	220,000	110,000	153,000
Sweden	47	30	83	700	466	803
Switzerland	--	--	--	41	25	30
Turkey	133	89	165	19,300	12,800	21,100
Zimbabwe	--	--	--	6,120	3,460	5,920
Total	25,900	13,200	18,800	289,000	158,000	225,000
<b>Medium-carbon ferrochromium:<sup>5</sup></b>						
Russia	--	--	--	225	121	120
South Africa	4,540	2,310	3,140	4,940	2,530	3,360
Total	4,540	2,310	3,140	5,170	2,650	3,480
<b>Low-carbon ferrochromium:<sup>6</sup></b>						
<b>More than 0.5% but not more than 3% carbon:</b>						
Brazil	648	400	1,280	3,940	2,420	7,650
China	--	--	--	1,160	742	2,380
Hong Kong	--	--	--	25	15	47
Kazakhstan	435	293	710	1,160	806	2,850
Total	1,080	693	1,990	6,290	3,990	12,900
<b>Not more than 0.5% carbon:</b>						
Brazil	216	109	459	4,840	2,750	9,080
China	--	--	--	2,350	1,480	4,940
Germany	620	434	2,400	3,260	2,280	12,400
India	--	--	--	81	52	361
Japan	239	168	998	1,270	894	5,190
Kazakhstan	1,660	1,180	3,780	3,200	2,290	8,090
Mexico	17	11	101	49	31	234
Netherlands	--	--	--	1,510	999	3,640
Russia	546	391	1,450	4,080	2,850	10,600
South Africa	97	11	59	181	57	223
Turkey	20	16	58	1,560	1,080	4,160
United Kingdom	--	--	--	1	1	8
Total	3,420	2,320	9,300	22,400	14,700	59,000
<b>All grades:</b>						
Albania	155	105	175	828	561	967
Brazil	864	509	1,740	9,820	5,720	17,400
China	--	--	--	3,510	2,220	7,320
Germany	620	434	2,400	3,260	2,280	12,400
Hong Kong	--	--	--	25	15	47
India	971	596	937	5,650	3,480	5,690
Japan	239	168	998	1,270	895	5,190
Kazakhstan	3,800	2,660	6,450	32,900	26,200	40,300
Mexico	17	11	101	49	31	234
Netherlands	--	--	--	1,510	999	3,640
Oman	540	326	491	2,900	1,730	2,660
Russia	546	391	1,450	7,530	5,070	15,100
South Africa	27,000	13,200	18,200	226,000	112,000	157,000
Sweden	47	30	83	700	466	803
Switzerland	--	--	--	41	25	30
Turkey	153	105	223	20,800	13,900	25,300
United Kingdom	--	--	--	1	1	8
Zimbabwe	--	--	--	6,120	3,460	5,920
Total	35,000	18,500	33,200	322,000	179,000	300,000

(See footnotes at end of table)

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

Grade and country	August			January–August <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	August		January–August <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	104	\$957	823	\$9,700
France	20	285	508	5,830
Germany	(4)	4	11	332
Japan	(4)	8	43	460
Korea, Republic of	--	--	(4)	3
Malaysia	--	--	(4)	4
Russia	44	297	347	2,450
Taiwan	--	--	1	30
United Kingdom	129	1,450	1,770	18,600
Total	297	3,010	3,500	37,400
<b>Waste and scrap:</b>				
Canada	18	49	62	140
China	--	--	3	33
France	--	--	19	271
India	--	--	(4)	4
Japan	--	--	16	352
Russia	1	31	1	31
United Kingdom	--	--	32	286
Total	19	80	134	1,120
<b>Other than waste and scrap and unwrought powders:</b>				
Brazil	--	--	(4)	4
Canada	14	1,090	168	12,100
China	29	74	367	2,690
France	209	1,790	1,250	13,300
Germany	82	402	452	2,820
Hong Kong	--	--	(4)	2
Japan	1	24	6	275
Malaysia	--	--	(4)	13
Netherlands	--	--	(4)	40
New Zealand	(4)	14	1	35
Romania	--	--	(4)	7
Russia	333	2,290	2,500	17,200
Spain	--	--	119	822
Switzerland	--	--	(4)	21
Taiwan	--	--	(4)	5
United Kingdom	--	--	82	922
Total	669	5,680	4,940	50,300
<b>All grades:</b>				
Brazil	--	--	(4)	4
Canada	33	1,130	231	12,300
China	133	1,030	1,190	12,400
France	229	2,080	1,770	19,400
Germany	82	406	463	3,150
Hong Kong	--	--	(4)	2
India	--	--	(4)	4
Japan	1	32	66	1,090
Korea, Republic of	--	--	(4)	3
Malaysia	--	--	(4)	17
Netherlands	--	--	(4)	40
New Zealand	(4)	14	1	35
Romania	--	--	(4)	7
Russia	378	2,610	2,840	19,700
Spain	--	--	119	822
Switzerland	--	--	(4)	21
Taiwan	--	--	1	35
United Kingdom	129	1,450	1,880	19,800
Total	985	8,760	8,580	88,900

(See footnotes at end of table)



TABLE 7—continued  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2016, BY GRADE AND BY COUNTRY<sup>1</sup>

Grade and country	August		January–August <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (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>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	August		January–August <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	2,430	\$7,460	18,900	\$82,100
Flat-rolled (width > 600 mm)	47,600	79,200	389,000	669,000
Flat-rolled (width < 600 mm)	7,760	28,300	58,700	225,000
Bars and rods in irregular coils	1,300	3,920	9,940	29,000
Other bars and rods	2,620	20,200	23,500	182,000
Wire	878	10,500	6,390	79,900
Tubes, pipes, hollow profiles	4,310	33,400	34,300	285,000
Total	66,900	183,000	541,000	1,550,000
Stainless steel scrap	65,300	36,600	485,000	285,000
Grand total	132,000	220,000	1,030,000	1,840,000
<b>Imports:</b>				
Ingot	8,990	39,700	65,100	305,000
Flat-rolled (width > 600 mm)	33,600	69,600	253,000	544,000
Flat-rolled (width < 600 mm)	6,050	20,100	45,700	148,000
Bars and rods in irregular coils	1,730	5,380	21,300	55,200
Other bars and rods	11,500	41,300	90,300	318,000
Wire	3,620	15,400	30,300	126,000
Tubes, pipes, hollow profiles	11,000	61,300	92,100	556,000
Total	76,500	253,000	598,000	2,050,000
Stainless steel scrap	27,900	21,700	181,000	116,000
Grand total	104,000	274,000	779,000	2,170,000

<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.