

# Mineral Industry Surveys

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## CHROMIUM IN AUGUST 2014

On the basis of gross weight, consumption of chromium ferroalloys and metal in August 2014 was about the same as that of July 2014. Consumption in August 2014 increased 4% compared with the revised amount in August 2013.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in August 2014, consumption by end use and consumer stocks of chromium ferroalloys and metal at the

end of August 2014, and U.S. foreign trade data for selected chromium-containing materials in August 2014.

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

(Metric tons, gross weight)

	2013 <sup>P</sup>	2014			
	January– December <sup>2</sup>	June	July	August	January– August <sup>2</sup>
Production, stainless steel <sup>3</sup>	2,030,000	216,000	203,000	195,000	1,560,000
Components of U.S. supply:					
Stainless steel scrap receipts	882,000	77,700	77,400 <sup>r</sup>	62,900	588,000
Stainless steel scrap consumption	1,300,000	110,000	109,000 <sup>r</sup>	92,800	854,000
Imports for consumption:					
Chromite ore	173,000	30,700	3,110	34,400	114,000
Ferrochromium:					
More than 4% carbon	416,000	55,100	39,500	76,700	406,000
More than 3% but not more than 4% carbon	370	--	--	3,000	3,030
More than 0.5% but not more than 3% carbon	13,800	4,520	--	2,630	10,800
Not more than 0.5% carbon	36,500	2,660	5,120	1,710	28,700
Ferrochromium silicon	12,000	40	--	3,000	12,800
Total ferroalloy imports	478,000	62,300	44,600	87,100	461,000
Chromium metal <sup>4</sup>	13,700	1,170	1,400	1,000	11,400
Stainless steel	570,000	55,800	64,900	65,300	450,000
Stainless steel scrap	226,000	33,500	31,900	28,300	237,000
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	422,000	36,100	36,600 <sup>r</sup>	36,700	290,000
Exports:					
Chromite ore	8,530	553	281	196	3,550
Chromium ferroalloys:					
High-carbon ferrochromium	4,460	572	387	192	2,600
Low-carbon ferrochromium	379	22	98	116	595
Ferrochromium silicon	16	--	--	--	--
Total ferroalloy exports	4,850	594	485	308	3,200
Chromium metal	856	62	46	76	511
Stainless steel	603,000	74,400	69,600	75,600	489,000
Stainless steel scrap	644,000	46,500	49,900	55,200	377,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	9,770	10,100	10,300 <sup>r</sup>	10,200	10,200
Government stockpile:					
Chromium ferroalloys	132,000	117,000	NA	NA	NA
Chromium metal	4,090	4,000	NA	NA	NA

<sup>P</sup>Preliminary. <sup>r</sup>Revised. NA Not available. -- 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)

	2014		
	July	August	January– August <sup>3</sup>
<b>Consumption by end use:</b>			
<b>Steel:</b>			
Carbon steel	240	235	1,660
High-strength low-alloy steel	138	143	1,180
Stainless and heat-resisting steel	32,200 <sup>r</sup>	32,200	256,000
Unspecified steel <sup>4</sup>	3,470 <sup>r</sup>	3,560	27,300
Superalloys	426	421	3,460
Other alloys and uses <sup>5</sup>	97	94	756
<b>Total</b>	<b>36,600 <sup>r</sup></b>	<b>36,700</b>	<b>290,000</b>
<b>Total, chromium content</b>	<b>21,000 <sup>r</sup></b>	<b>21,000</b>	<b>166,000</b>
<b>Consumption by material:</b>			
Low-carbon ferrochromium	2,080 <sup>r</sup>	2,090	16,000
High-carbon ferrochromium	31,900 <sup>r</sup>	32,000	254,000
Ferrochromium silicon	W	W	W
Chromium metal	160	158	1,330
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>36,600 <sup>r</sup></b>	<b>36,700</b>	<b>290,000</b>
<b>Total, chromium content</b>	<b>21,000 <sup>r</sup></b>	<b>21,000</b>	<b>166,000</b>
<b>Consumer stocks:</b>			
Low-carbon ferrochromium	1,530	1,490	1,490
High-carbon ferrochromium	7,870 <sup>r</sup>	7,860	7,860
Ferrochromium silicon	W	W	W
Chromium metal	37 <sup>r</sup>	30	30
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>10,300 <sup>r</sup></b>	<b>10,200</b>	<b>10,200</b>
<b>Total, chromium content</b>	<b>5,970 <sup>r</sup></b>	<b>5,940</b>	<b>5,940</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	
2013:			
August	90,000	46,000	4,090
September	88,600	45,600	4,090
October	88,600	45,600	4,090
November	86,300	45,300	4,090
December	85,100	44,300	4,090
2014:			
January	82,300	43,500	4,090
February	81,000	43,300	4,090
March	81,000	42,300	4,040
April	79,500	41,700	4,040
May	77,600	41,100	4,000
June	77,200	40,200	4,000
July	NA	NA	NA
August	NA	NA	NA

NA Not available.

<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)
2013:							
August	210	\$148	212	105	\$342	61	\$1,510
September	82	114	375	153	537	104	1,790
October	130	129	357	214	717	30	862
November	253	122	365	203	607	132	1,950
December	233	157	308	157	514	39	990
January–December <sup>4</sup>	8,530	3,040	4,850	2,500	7,300	856	19,000
2014:							
January	221	154	367	176	711	53	1,470
February	427	203	445	174	691	45	1,210
March	322	157	358	194	586	53	2,140
April	1,050	467	247	141	392	63	2,250
May	503	321	394	238	810	114	3,050
June	553	304	594	262	814	62	1,590
July	281	1,070	485	256	955	46	1,140
August	196	104	308	160	692	76	1,360
January–August <sup>4</sup>	3,550	2,780	3,200	1,600	5,650	511	14,200

<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)

	2013	2014		
	January– December <sup>2</sup>	July	August	January– August <sup>2</sup>
<b>Chromite ore:</b>				
Not more than 40% chromic oxide:				
Gross weight	6,380	5	--	27
Chromic oxide content	1,610	2	--	6
More than 40% but less than 46% chromic oxide:				
Gross weight	68,400	--	120	42,800
Chromic oxide content	30,800	--	54	19,500
46% or more chromic oxide:				
Gross weight	98,400	3,110	34,300	71,600
Chromic oxide content	46,700	1,760	16,000	34,700
<b>Total, all grades:</b>				
Gross weight	173,000	3,110	34,400	114,000
Chromic oxide content	79,100	1,770	16,000	54,200
<b>Ferrochromium:</b>				
Low-carbon: <sup>3</sup>				
Not more than 0.5% carbon:				
Gross weight	36,500	5,120	1,710	28,700
Chromium content	24,800	3,500	1,170	19,600
More than 0.5% but not more than 3% carbon:				
Gross weight	13,800	--	2,630	10,800
Chromium content	9,410	--	1,820	7,460
<b>Total, low-carbon:</b>				
Gross weight	50,300	5,120	4,340	39,500
Chromium content	34,200	3,500	2,980	27,100
Medium-carbon: <sup>4</sup>				
Gross weight	370	--	3,000	3,030
Chromium content	210	--	1,450	1,460
High-carbon: <sup>5</sup>				
Gross weight	416,000	39,500	76,700	406,000
Chromium content	227,000	19,800	42,500	221,000
<b>Total, all grades:</b>				
Gross weight	466,000	44,600	84,100	448,000
Chromium content	262,000	23,300	46,900	250,000
<b>Chromium metal:</b>				
Unwrought powders	3,350	322	248	2,660
Waste and scrap	70	4	6	39
Other than waste and scrap and unwrought powders	10,200	1,070	750	8,700
<b>Total, all grades</b>	<b>13,700</b>	<b>1,400</b>	<b>1,000</b>	<b>11,400</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 2014, 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	124	79	\$155	1,230	793	\$1,840
Brazil	--	--	--	3,040	1,550	2,600
Colombia	--	--	--	21	14	34
Germany	--	--	--	299	208	500
India	1,480	912	1,780	6,630	4,070	7,750
Kazakhstan	17,600	12,100	24,900	71,300	49,400	96,000
Latvia	--	--	--	440	307	770
Oman	108	66	128	263	160	321
Russia	4,090	2,700	5,490	9,980	6,570	13,200
South Africa	50,000	24,700	48,300	281,000	139,000	265,000
Sweden	406	267	547	5,460	3,630	9,680
Turkey	389	247	514	16,000	10,400	22,900
Zimbabwe	2,570	1,400	2,780	10,200	5,590	10,700
Total	76,700	42,500	84,600	406,000	221,000	431,000
<b>Medium-carbon ferrochromium:<sup>5</sup></b>						
Belgium	--	--	--	28	15	15
China	--	--	--	2	2	4
South Africa	3,000	1,450	3,030	3,000	1,450	3,030
Total	3,000	1,450	3,030	3,030	1,460	3,050
<b>Low-carbon ferrochromium:<sup>6</sup></b>						
More than 0.5% but not more than 3% carbon:						
Brazil	--	--	--	108	66	265
Kazakhstan	1,250	863	3,160	4,760	3,320	11,800
Poland	--	--	--	41	23	75
Russia	1,380	953	3,690	5,870	4,060	15,400
Total	2,630	1,820	6,850	10,800	7,460	27,600
Not more than 0.5% carbon:						
Brazil	--	--	--	714	442	1,720
China	--	--	--	102	65	407
Germany	768	537	2,840	4,760	3,340	18,400
India	--	--	--	83	56	468
Japan	120	84	505	1,230	856	4,780
Kazakhstan	--	--	--	5,020	3,470	12,500
Mexico	64	41	273	100	65	509
Russia	494	344	1,460	15,400	10,500	43,000
South Africa	200	121	485	843	501	1,950
Sweden	--	--	--	1	1	3
Turkey	60	41	199	437	309	1,440
Total	1,710	1,170	5,760	28,700	19,600	85,200
<b>All grades:</b>						
Albania	124	79	155	1,230	793	1,840
Belgium	--	--	--	28	15	15
Brazil	--	--	--	3,860	2,060	4,590
China	--	--	--	104	67	412
Colombia	--	--	--	21	14	34
Germany	768	537	2,840	5,060	3,550	18,900
India	1,480	912	1,780	6,710	4,120	8,220
Japan	120	84	505	1,230	856	4,780
Kazakhstan	18,800	13,000	28,000	81,100	56,200	120,000
Latvia	--	--	--	440	307	770
Mexico	64	41	273	100	65	509
Oman	108	66	128	263	160	321
Poland	--	--	--	41	23	75
Russia	5,960	4,000	10,600	31,300	21,200	71,600
South Africa	53,200	26,300	51,900	285,000	141,000	270,000
Sweden	406	267	547	5,460	3,630	9,680
Turkey	449	288	713	16,400	10,700	24,300
Zimbabwe	2,570	1,400	2,780	10,200	5,590	10,700
Total	84,100	46,900	100,000	448,000	250,000	547,000

See footnotes at end of table.

TABLE 6—continued  
 U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2014, 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 2014, 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>				
Austria	--	--	(4)	\$2
Belgium	--	--	93	1,330
China	145	\$1,380	1,700	17,500
France	51	763	379	5,080
Germany	5	143	27	780
India	--	--	19	206
Japan	--	--	1	126
Korea, Republic of	--	--	(4)	3
Russia	40	344	260	2,170
Sweden	--	--	(4)	27
Taiwan	--	--	(4)	13
United Kingdom	7	107	173	2,580
Total	248	2,730	2,660	29,900
<b>Waste and scrap:</b>				
Brazil	--	--	6	32
France	--	--	1	31
Germany	--	--	11	114
Japan	--	--	1	21
Singapore	6	28	9	91
Taiwan	1	13	1	19
United Kingdom	--	--	9	104
Total	6	41	39	413
<b>Other than waste and scrap and unwrought powders:</b>				
Canada	19	1,540	144	11,800
China	212	1,770	1,800	14,300
France	152	1,750	2,480	26,600
Germany	21	482	59	1,730
Japan	1	58	11	553
Jordan	--	--	(4)	4
Malaysia	--	--	(4)	8
New Zealand	--	--	(4)	10
Russia	200	1,680	2,640	21,700
Spain	--	--	47	349
Taiwan	--	--	1	14
United Kingdom	144	1,630	1,520	16,500
Total	750	8,900	8,700	93,600
<b>All grades:</b>				
Austria	--	--	(4)	2
Belgium	--	--	93	1,330
Brazil	--	--	6	32
Canada	19	1,540	144	11,800
China	357	3,140	3,500	31,900
France	204	2,510	2,860	31,700
Germany	26	625	96	2,630
India	--	--	19	206
Japan	1	58	13	701
Jordan	--	--	(4)	4
Korea, Republic of	--	--	(4)	3
Malaysia	--	--	(4)	8
New Zealand	--	--	(4)	10
Russia	240	2,020	2,900	23,900
Singapore	6	28	9	91
Spain	--	--	47	349
Sweden	--	--	(4)	27
Taiwan	1	13	3	46
United Kingdom	151	1,730	1,700	19,200
Total	1,000	11,700	11,400	124,000

See footnotes at end of table.

TABLE 7—continued  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2014, 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 2014<sup>1</sup>

Stainless steel product	August		January–August <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)
<b>Exports:</b>				
Ingot	1,380	\$7,150	25,400	\$85,200
Flat-rolled (width > 600 mm)	57,000	141,000	325,000	893,000
Flat-rolled (width < 600 mm)	8,470	32,200	66,100	251,000
Bars and rods in irregular coils	889	2,600	7,930	24,100
Other bars and rods	3,430	24,700	27,000	215,000
Wire	643	9,160	5,860	73,200
Tubes, pipes, hollow profiles	3,840	34,800	31,900	288,000
Total	75,600	252,000	489,000	1,830,000
Stainless steel scrap	55,200	73,100	377,000	461,000
Grand total	131,000	325,000	866,000	2,290,000
<b>Imports:</b>				
Ingot	16,300	48,200	100,000	284,000
Flat-rolled (width > 600 mm)	29,000	84,600	209,000	561,000
Flat-rolled (width < 600 mm)	4,350	18,100	33,500	133,000
Bars and rods in irregular coils	3,410	13,800	22,100	78,500
Other bars and rods	336	2,470	2,970	18,700
Wire	933	5,170	6,400	37,000
Tubes, pipes, hollow profiles	11,000	77,700	76,800	562,000
Total	65,300	250,000	450,000	1,670,000
Stainless steel scrap	28,300	44,600	237,000	315,000
Grand total	93,500	295,000	687,000	1,990,000

<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.