



# Mineral Industry Surveys

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## CHROMIUM IN NOVEMBER 2014

On the basis of gross weight, consumption of chromium ferroalloys and metal in November 2014 decreased slightly compared with that of October 2014. Consumption in November 2014 increased 4% compared with that of November 2013 (revised).

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

end of November 2014, and U.S. foreign trade data for selected chromium-containing materials in November 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>	September	October	November	January– November <sup>2</sup>
Production, stainless steel <sup>3</sup>	2,030,000	206,000	218,000	204,000	2,190,000
Components of U.S. supply:					
Stainless steel scrap receipts	882,000	75,900	80,200	--	800,000
Stainless steel scrap consumption	1,300,000	111,000	112,000	--	1,090,000
Imports for consumption:					
Chromite ore	173,000	5,860	6,920	5,680	133,000
Ferrochromium:					
More than 4% carbon	416,000	34,700	59,500	43,400	543,000
More than 3% but not more than 4% carbon	370	7	--	--	3,040
More than 0.5% but not more than 3% carbon	13,800	--	2,340	--	13,100
Not more than 0.5% carbon	36,500	3,340	3,240	2,460	37,800
Ferrochromium silicon	12,000	--	2,000	--	14,800
Total ferroalloy imports	478,000	38,000	67,100	45,800	612,000
Chromium metal <sup>4</sup>	13,700	1,430	1,550	1,540	15,900
Stainless steel	570,000	63,200	74,300	66,600	654,000
Stainless steel scrap	226,000	32,500	23,500	15,300	308,000
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	422,000	35,800	36,800	36,500	398,000
Exports:					
Chromite ore	8,530	1,090	1,050	256	5,950
Chromium ferroalloys:					
High-carbon ferrochromium	4,460	504	351	194	3,650
Low-carbon ferrochromium	379	114	2	128	839
Ferrochromium silicon	16	--	--	--	--
Total ferroalloy exports	4,850	618	353	322	4,490
Chromium metal	856	25	28	68	632
Stainless steel	603,000	76,500	71,400	89,200	726,000
Stainless steel scrap	644,000	45,400	50,100	38,700	511,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	9,770	9,480	10,500	10,200	10,200
Government stockpile:					
Chromium ferroalloys	129,000	112,000	NA	NA	NA
Chromium metal	4,090	3,960	NA	NA	NA

<sup>P</sup>Preliminary. 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		
	October	November	January– November <sup>3</sup>
<b>Consumption by end use:</b>			
<b>Steel:</b>			
Carbon steel	202	172	2,260
High-strength low-alloy steel	137	148	1,610
Stainless and heat-resisting steel	32,600	32,300	351,000
Unspecified steel <sup>4</sup>	3,330	3,330	37,600
Superalloys	433	434	4,760
Other alloys and uses <sup>5</sup>	85 <sup>r</sup>	95	1,030
<b>Total</b>	<b>36,800</b>	<b>36,500</b>	<b>398,000</b>
<b>Total, chromium content</b>	<b>21,000<sup>r</sup></b>	<b>20,900</b>	<b>228,000</b>
<b>Consumption by material:</b>			
Low-carbon ferrochromium	2,000	1,980	22,000
High-carbon ferrochromium	32,200	32,000	347,000
Ferrochromium silicon	W	W	W
Chromium metal	161	164	1,820
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>36,800</b>	<b>36,500</b>	<b>398,000</b>
<b>Total, chromium content</b>	<b>21,000<sup>r</sup></b>	<b>20,900</b>	<b>228,000</b>
<b>Consumer stocks:</b>			
Low-carbon ferrochromium	1,580	1,540	1,540
High-carbon ferrochromium	8,040 <sup>r</sup>	7,750	7,750
Ferrochromium silicon	745	771	771
Chromium metal	47	45	45
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>10,500</b>	<b>10,200</b>	<b>10,200</b>
<b>Total, chromium content</b>	<b>6,090<sup>r</sup></b>	<b>5,910</b>	<b>5,910</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:			
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
September	74,900	37,000	3,960
October	NA	NA	NA
November	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. Beginning July 2014, DLA discontinued the D-1 report, but continued to provide USGS with this stockpile inventory data.

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:							
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
September	1,090	547	618	259	952	25	683
October	1,050	629	353	162	574	28	894
November	256	112	322	147	533	68	1,240
January–November <sup>4</sup>	5,950	4,070	4,490	2,170	7,710	632	17,000

<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>	October	November	January– November <sup>2</sup>
<b>Chromite ore:</b>				
Not more than 40% chromic oxide:				
Gross weight	6,380	--	--	27
Chromic oxide content	1,610	--	--	6
More than 40% but less than 46% chromic oxide:				
Gross weight	68,400	8	1,500	44,300
Chromic oxide content	30,800	4	686	20,200
46% or more chromic oxide:				
Gross weight	98,400	6,910	4,180	88,500
Chromic oxide content	46,700	7,490	3,430	48,300
<b>Total, all grades:</b>				
Gross weight	173,000	6,920	5,680	133,000
Chromic oxide content	79,100	7,500	4,120	68,600
<b>Ferrochromium:</b>				
Low-carbon: <sup>3</sup>				
Not more than 0.5% carbon:				
Gross weight	36,500	3,240	2,460	37,800
Chromium content	24,800	2,120	1,690	25,800
More than 0.5% but not more than 3% carbon:				
Gross weight	13,800	2,340	--	13,100
Chromium content	9,410	1,610	--	9,070
<b>Total, low-carbon:</b>				
Gross weight	50,300	5,580	2,460	50,900
Chromium content	34,200	3,730	1,690	34,800
Medium-carbon: <sup>4</sup>				
Gross weight	370	--	--	3,040
Chromium content	210	--	--	1,470
High-carbon: <sup>5</sup>				
Gross weight	416,000	59,500	43,400	543,000
Chromium content	227,000	34,100	22,100	296,000
<b>Total, all grades:</b>				
Gross weight	466,000	65,100	45,800	597,000
Chromium content	262,000	37,900	23,800	332,000
<b>Chromium metal:</b>				
Unwrought powders	3,350	698	755	4,730
Waste and scrap	70	19	26	88
Other than waste and scrap and unwrought powders	10,200	832	762	11,100
<b>Total, all grades</b>	<b>13,700</b>	<b>1,550</b>	<b>1,540</b>	<b>15,900</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	November			January–November <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	179	131	\$293	1,730	1,150	\$2,590
Brazil	--	--	--	3,040	1,550	2,600
Colombia	--	--	--	21	14	34
Germany	--	--	--	299	208	500
India	1,080	644	1,270	11,000	6,850	13,100
Kazakhstan	204	143	343	89,700	62,100	123,000
Latvia	--	--	--	440	307	770
Oman	--	--	--	776	427	812
Russia	754	519	1,090	12,300	8,090	16,400
South Africa	32,500	16,000	31,800	369,000	183,000	349,000
Sweden	--	--	--	6,700	4,420	11,400
Turkey	--	--	--	16,500	10,700	23,600
Zimbabwe	8,670	4,670	9,120	31,500	17,100	33,700
Total	43,400	22,100	43,900	543,000	296,000	577,000
<b>Medium-carbon ferrochromium:<sup>5</sup></b>						
Belgium	--	--	--	28	15	15
China	--	--	--	9	6	22
South Africa	--	--	--	3,000	1,450	3,030
Total	--	--	--	3,040	1,470	3,060
<b>Low-carbon ferrochromium:<sup>6</sup></b>						
<b>More than 0.5% but not more than 3% carbon:</b>						
Brazil	--	--	--	162	99	393
Kazakhstan	--	--	--	5,460	3,800	13,600
Poland	--	--	--	41	23	75
Russia	--	--	--	7,450	5,150	19,700
Total	--	--	--	13,100	9,070	33,800
<b>Not more than 0.5% carbon:</b>						
Brazil	--	--	--	714	442	1,720
China	--	--	--	141	90	558
Germany	840	588	3,310	7,650	5,360	29,600
India	--	--	--	127	84	721
Japan	319	222	1,310	2,050	1,430	8,150
Kazakhstan	--	--	--	5,020	3,470	12,500
Mexico	9	6	59	109	70	568
Russia	1,270	862	3,510	19,800	13,500	55,300
South Africa	21	11	23	1,560	870	3,700
Sweden	--	--	--	1	1	3
Turkey	--	--	--	637	447	2,090
Total	2,460	1,690	8,220	37,800	25,800	115,000
<b>All grades:</b>						
Albania	179	131	293	1,730	1,150	2,590
Belgium	--	--	--	28	15	15
Brazil	--	--	--	3,920	2,100	4,720
China	--	--	--	151	95	580
Colombia	--	--	--	21	14	34
Germany	840	588	3,310	7,950	5,570	30,100
India	1,080	644	1,270	11,100	6,930	13,800
Japan	319	222	1,310	2,050	1,430	8,150
Kazakhstan	204	143	343	100,000	69,400	149,000
Latvia	--	--	--	440	307	770
Mexico	9	6	59	109	70	568
Oman	--	--	--	776	427	812
Poland	--	--	--	41	23	75
Russia	2,020	1,380	4,610	39,500	26,700	91,400
South Africa	32,500	16,000	31,800	374,000	185,000	355,000
Sweden	--	--	--	6,700	4,420	11,400
Turkey	--	--	--	17,200	11,100	25,700
Zimbabwe	8,670	4,670	9,120	31,500	17,100	33,700
Total	45,800	23,800	52,100	597,000	332,000	729,000

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	November			January–November <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	November		January–November <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	19	\$292	112	1,620
China	377	4,300	2,730	28,400
France	19	292	420	5,620
Germany	--	--	31	971
India	--	--	19	206
Japan	--	--	1	126
Korea, Republic of	--	--	(4)	3
Russia	60	537	340	2,890
Sweden	--	--	(4)	27
Taiwan	1	15	1	28
United Kingdom	279	3,140	1,080	12,600
Total	755	8,580	4,730	52,500
<b>Waste and scrap:</b>				
Brazil	--	--	6	32
China	(4)	3	(4)	3
France	--	--	1	31
Germany	--	--	15	135
Japan	--	--	2	32
Singapore	2	27	11	118
Taiwan	--	--	5	119
United Kingdom	23	166	48	528
Total	26	196	88	999
<b>Other than waste and scrap and unwrought powders:</b>				
Canada	28	2,220	227	18,500
China	199	1,690	2,450	20,200
France	229	2,430	3,190	34,000
Germany	18	464	87	2,680
Ireland	--	--	(4)	10
Japan	--	--	11	558
Jordan	--	--	(4)	4
Malaysia	(4)	4	1	21
New Zealand	--	--	1	19
Russia	288	2,480	3,550	29,200
Spain	--	--	47	349
Taiwan	1	18	2	35
United Kingdom	(4)	13	1,530	16,700
Total	762	9,320	11,100	122,000
<b>All grades:</b>				
Austria	--	--	(4)	2
Belgium	19	292	112	1,620
Brazil	--	--	6	32
Canada	28	2,220	227	18,500
China	577	6,000	5,180	48,600
France	248	2,720	3,610	39,600
Germany	18	464	132	3,790
India	--	--	19	206
Ireland	--	--	(4)	10
Japan	--	--	14	716
Jordan	--	--	(4)	4
Korea, Republic of	--	--	(4)	3
Malaysia	(4)	4	1	21
New Zealand	--	--	1	19
Russia	348	3,020	3,890	32,100
Singapore	2	27	11	118
Spain	--	--	47	349
Sweden	--	--	(4)	27
Taiwan	1	33	8	182
United Kingdom	302	3,320	2,660	29,900
Total	1,540	18,100	15,900	176,000

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	November		January–November <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	November		January–November <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>3</sup> (thousands)
<b>Exports:</b>				
Ingot	1,300	\$8,130	45,000	\$120,000
Flat-rolled (width > 600 mm)	71,700	123,000	489,000	1,260,000
Flat-rolled (width < 600 mm)	7,510	29,500	92,500	353,000
Bars and rods in irregular coils	673	2,390	10,500	32,600
Other bars and rods	3,520	30,100	37,700	303,000
Wire	592	8,400	7,710	101,000
Tubes, pipes, hollow profiles	3,920	34,300	43,400	390,000
Total	89,200	236,000	726,000	2,560,000
Stainless steel scrap	38,700	45,000	511,000	628,000
Grand total	128,000	281,000	1,240,000	3,190,000
<b>Imports:</b>				
Ingot	11,800	34,600	134,000	383,000
Flat-rolled (width > 600 mm)	36,800	102,000	320,000	871,000
Flat-rolled (width < 600 mm)	4,440	18,200	48,000	191,000
Bars and rods in irregular coils	2,840	10,900	30,800	110,000
Other bars and rods	399	2,720	3,990	25,700
Wire	729	4,660	8,710	50,600
Tubes, pipes, hollow profiles	9,550	76,400	109,000	797,000
Total	66,600	249,000	654,000	2,430,000
Stainless steel scrap	15,300	15,500	308,000	403,000
Grand total	81,900	265,000	963,000	2,830,000

<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.