



# Mineral Industry Surveys

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## CHROMIUM IN FEBRUARY 2012

On the basis of gross weight, consumption of chromium ferroalloys and metal in February 2012 increased slightly compared with consumption in January 2012. Consumption in February 2012 decreased by 3% compared with consumption in February 2011.

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

chromium statistics, U.S. Government stockpile inventory of chromium materials in February 2012, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of February 2012, and U.S. foreign trade data for selected chromium-containing materials in February 2012.

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

(Metric tons, gross weight)

	2011		2012		
	December	January– December <sup>2</sup>	January	February	January– February
<b>Production:</b>					
Stainless steel production <sup>3</sup>	164,000	2,070,000	169,000	166,000	335,000
<b>Components of U.S. supply:</b>					
Stainless steel scrap receipts	68,200	866,000	72,900	73,200	146,000
Stainless steel scrap consumption	103,000	1,300,000	114,000	112,000	225,000
<b>Imports for consumption:</b>					
Chromite ore	8,000	191,000	40,500	4,650	45,100
<b>Ferrochromium:</b>					
More than 4% carbon	24,500	462,000	55,100	36,900	92,000
More than 3% but not more than 4% carbon	--	1,510	100	40	140
More than 0.5% but not more than 3% carbon	--	393	202	--	202
Not more than 0.5% carbon	5,100	53,700	4,830	3,930	8,760
Ferrochromium silicon	3,570	20,000	358	5,150	5,510
Total ferroalloy imports	33,200	538,000	60,500	46,000	107,000
Chromium metal <sup>4</sup>	1,190	13,600	1,220	1,440	2,660
Stainless steel	42,200	605,000	47,800	43,400	91,200
Stainless steel scrap	11,000	169,000	20,200	20,600	40,800
<b>Distribution of U.S. supply:</b>					
Consumption, industry, chromium ferroalloys and metal	30,000	421,000 <sup>r</sup>	36,100	36,300	72,400
<b>Exports:</b>					
Chromite ore	477	5,250	803	571	1,370
<b>Chromium ferroalloys:</b>					
High-carbon ferrochromium	190	4,260	325	81	406
Low-carbon ferrochromium	93	1,030	34	50	85
Ferrochromium silicon	24	28	14	--	14
Total ferroalloy exports	307	5,330	374	131	505
Chromium metal	44	557	24	35	58
Stainless steel	41,700	558,000	46,100	50,000	96,100
Stainless steel scrap	58,200	656,000	36,700	38,700	75,400
<b>Stocks at end of period:</b>					
Consumer, industry, chromium ferroalloys and metal	8,940 <sup>r</sup>	8,940 <sup>r</sup>	9,840	10,200	10,200
<b>Government stockpile:</b>					
Chromium ferroalloys	150,000	150,000	149,000	148,000	148,000
Chromium metal	4,230	4,230	4,230	4,230	4,230

<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)

	2012		
	January	February	January– February <sup>3</sup>
<b>Consumption by end use:</b>			
<b>Steel:</b>			
Carbon steel	323	325	648
High-strength low-alloy steel	235 <sup>r</sup>	230	465
Stainless and heat-resisting steel	31,000	31,200	62,300
Unspecified steel <sup>4</sup>	3,940	3,950	7,890
Superalloys	418	452	869
Other alloys and uses <sup>5</sup>	110	107	217
<b>Total</b>	<b>36,100</b>	<b>36,300</b>	<b>72,400</b>
<b>Total, chromium content</b>	<b>20,900</b>	<b>21,000</b>	<b>42,000</b>
<b>Consumption by material:</b>			
Low-carbon ferrochromium	2,440 <sup>r</sup>	2,440	4,880
High-carbon ferrochromium	31,100	31,300	62,500
Ferrochromium silicon	W	W	W
Chromium metal	233 <sup>r</sup>	267	500
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>36,100</b>	<b>36,300</b>	<b>72,400</b>
<b>Total, Chromium content</b>	<b>20,900</b>	<b>21,000</b>	<b>42,000</b>
<b>Consumer stocks:</b>			
Low-carbon ferrochromium	1,710 <sup>r</sup>	1,750	1,750
High-carbon ferrochromium	7,320 <sup>r</sup>	7,630	7,630
Ferrochromium silicon	W	W	W
Chromium metal	130 <sup>r</sup>	140	140
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total</b>	<b>9,840<sup>r</sup></b>	<b>10,200</b>	<b>10,200</b>
<b>Total, chromium content</b>	<b>5,840<sup>r</sup></b>	<b>6,050</b>	<b>6,050</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	
2011:			
February	95,400	59,000	4,430
March	95,400	57,400	4,430
April	95,400	57,400	4,390
May	94,100	56,200	4,290
June	94,100	56,200	4,290
July	94,100	55,700	4,270
August	94,100	55,600	4,270
September	95,200	55,100	4,240
October	95,200	54,900	4,240
November	95,200	54,600	4,230
December	95,200	54,300	4,230
2012:			
January	95,200	54,100	4,230
February	95,200	53,200	4,230

<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 contract. 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)
2011:							
February	160	\$111	384	175	\$584	27	\$851
March	381	250	282	158	533	61	1,680
April	618	411	444	236	733	80	1,560
May	318	182	831	363	1,050	49	1,050
June	216	161	693	297	803	38	978
July	375	250	294	112	517	38	1,120
August	846	513	287	159	396	31	937
September	739	491	554	281	793	66	1,150
October	370	273	143	72	212	73	1,820
November	615	394	377	151	496	31	805
December	477	333	307	165	515	44	1,250
January–December <sup>4</sup>	5,250	3,520	5,330	2,500	7,670	557	13,800
2012:							
January	803	475	374	199	417	24	891
February	571	345	131	65	244	35	1,060
January–February	1,370	820	505	264	662	58	1,950

<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)

	2011	2012		
	January– December <sup>2</sup>	January	February	January– February
<b>Chromite ore:</b>				
Not more than 40% chromic oxide:				
Gross weight	151	--	--	--
Chromic oxide content	78	--	--	--
More than 40% but less than 46% chromic oxide:				
Gross weight	27,900	1,500	--	1,500
Chromic oxide content	12,600	684	--	684
46% or more chromic oxide:				
Gross weight	163,000	39,000	4,650	43,600
Chromic oxide content	90,000	19,300	2,320	21,600
Total, all grades:				
Gross weight	191,000	40,500	4,650	45,100
Chromic oxide content	103,000	20,000	2,320	22,300
<b>Ferrochromium:</b>				
Low-carbon: <sup>3</sup>				
Not more than 0.5% carbon:				
Gross weight	53,700	4,830	3,930	8,760
Chromium content	37,100	3,310	2,710	6,020
More than 0.5% but not more than 3% carbon:				
Gross weight	393	202	--	202
Chromium content	224	116	--	116
Total, low-carbon:				
Gross weight	54,100	5,030	3,930	8,970
Chromium content	37,400	3,430	2,710	6,140
Medium-carbon: <sup>4</sup>				
Gross weight	1,510	100	40	140
Chromium content	855	54	22	76
High-carbon: <sup>5</sup>				
Gross weight	462,000	55,100	36,900	92,000
Chromium content	265,000	30,700	24,000	54,700
Total, all grades:				
Gross weight	518,000	60,200	40,900	101,000
Chromium content	304,000	34,200	26,800	60,900
<b>Chromium metal:</b>				
Unwrought powders	2,720	180	311	491
Waste and scrap	574	26	53	79
Other than waste and scrap and unwrought powders	10,300	1,020	1,080	2,100
Total, all grades	13,600	1,220	1,440	2,660

-- 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 2012, 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>						
Albania	538	338	\$729	988	620	\$1,310
India	504	312	605	2,550	1,550	3,130
Kazakhstan	19,000	13,200	25,600	19,000	13,200	25,600
Russia	5,700	3,830	7,940	7,220	4,760	9,970
South Africa	4,230	2,180	3,500	32,200	15,900	29,400
Sweden	1,710	1,150	3,290	3,660	2,460	6,890
Turkey	138	91	222	10,600	6,970	17,000
Zimbabwe	5,050	2,920	6,740	15,700	9,280	19,700
Total	36,900	24,000	48,600	92,000	54,700	113,000
<b>Medium-carbon ferrochromium:<sup>5</sup></b>						
Belgium	40	22	22	40	22	22
Russia	--	--	--	100	54	54
Total	40	22	22	140	76	76
<b>Low-carbon ferrochromium:<sup>6</sup></b>						
More than 0.5% but not more than 3% carbon:						
Russia	--	--	--	40	28	118
South Africa	--	--	--	162	88	337
Total	--	--	--	202	116	456
Not more than 0.5% carbon:						
Belgium	--	--	--	35	23	128
Brazil	--	--	--	40	13	135
China	20	12	98	20	12	98
Germany	835	556	3,420	1,200	807	4,980
Japan	220	153	1,110	259	181	1,310
Kazakhstan	583	414	1,550	583	414	1,550
Russia	2,030	1,400	6,350	6,240	4,290	19,400
Turkey	244	176	832	389	279	1,310
Total	3,930	2,710	13,400	8,760	6,020	28,900
<b>All grades:</b>						
Albania	538	338	729	988	620	1,310
Belgium	40	22	22	75	46	151
Brazil	--	--	--	40	13	135
China	20	12	98	20	12	98
Germany	835	556	3,420	1,200	807	4,980
India	504	312	605	2,550	1,550	3,130
Japan	220	153	1,110	259	181	1,310
Kazakhstan	19,600	13,600	27,200	19,600	13,600	27,200
Russia	7,730	5,220	14,300	13,600	9,140	29,500
South Africa	4,230	2,180	3,500	32,400	16,000	29,700
Sweden	1,710	1,150	3,290	3,660	2,460	6,890
Turkey	382	267	1,050	11,000	7,250	18,300
Zimbabwe	5,050	2,920	6,740	15,700	9,280	19,700
Total	40,900	26,800	62,000	101,000	60,900	142,000

-- 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 more than 3% 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 2012, 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>				
China	34	\$423	101	\$1,410
France	60	993	121	1,990
Germany	(4)	5	2	87
Japan	--	--	2	33
Russia	80	880	121	1,320
United Kingdom	137	1,490	143	1,630
Total	311	3,790	491	6,470
<b>Waste and scrap:</b>				
Japan	2	17	2	22
Mexico	51	158	76	245
Total	53	175	79	267
<b>Other than waste and scrap and unwrought powders:</b>				
China	109	1,500	175	2,460
France	400	6,340	556	8,740
Germany	(4)	52	1	96
Japan	1	16	1	16
Russia	279	3,550	766	11,800
Switzerland	(4)	14	(4)	14
United Kingdom	290	4,000	597	8,250
Total	1,080	15,500	2,100	31,300
<b>All grades:</b>				
China	143	1,920	276	3,880
France	460	7,330	677	10,700
Germany	(4)	56	3	184
Japan	2	33	5	71
Mexico	51	158	76	245
Russia	359	4,430	887	13,100
Switzerland	(4)	14	(4)	14
United Kingdom	427	5,480	740	9,880
Total	1,440	19,400	2,660	38,100

-- 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 2012<sup>1</sup>

Stainless steel product	February		January–February	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)
<b>Exports:</b>				
Ingot	9,040	\$15,500	14,100	\$27,200
Flat-rolled (width > 600 mm)	23,400	80,300	48,600	164,000
Flat-rolled (width < 600 mm)	8,090	32,100	14,300	56,900
Bars and rods in irregular coils	320	1,510	883	3,460
Other bars and rods	3,870	34,200	7,950	65,800
Wire	1,050	7,750	2,140	15,900
Tubes, pipes, hollow profiles	4,220	39,700	8,160	72,300
<b>Total</b>	<b>50,000</b>	<b>211,000</b>	<b>96,100</b>	<b>406,000</b>
Stainless steel scrap	38,700	57,200	75,400	111,000
<b>Grand total</b>	<b>88,700</b>	<b>268,000</b>	<b>171,000</b>	<b>517,000</b>
<b>Imports</b>				
Ingot	11,500	39,100	20,800	68,800
Flat-rolled (width > 600 mm)	17,700	53,900	38,400	115,000
Flat-rolled (width < 600 mm)	3,020	14,200	6,400	27,500
Bars and rods in irregular coils	2,410	8,930	4,350	16,600
Other bars and rods	149	1,160	514	3,270
Wire	249	1,910	450	4,080
Tubes, pipes, hollow profiles	8,340	70,400	20,200	156,000
<b>Total</b>	<b>43,400</b>	<b>190,000</b>	<b>91,200</b>	<b>392,000</b>
Stainless steel scrap	20,600	35,200	40,800	67,700
<b>Grand total</b>	<b>64,000</b>	<b>225,000</b>	<b>132,000</b>	<b>459,000</b>

<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.