

Mineral Industry Surveys

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CHROMIUM IN SEPTEMBER 2016

On the basis of domestic reported consumption, consumption of chromium ferroalloys and metal in September 2016 decreased by 3% compared with that of August 2016. Consumption in September 2016 decreased by 6% compared with that of September 2015.

According to CRU Group, U.S. high-carbon (60%–70% chromium) ferrochromium (FeCr) price was 87.500 cents per pound of contained chromium in September 2016, compared with 91.278 cents per pound of contained chromium in August 2016. The U.S. charge-grade FeCr (47%–55% chromium) price was 89.00 cents per pound of contained chromium in September 2016, unchanged from that of August 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 STATISTICS¹

(Metric tons, gross weight)

	2015	2016			
	January– December ^p	July	August	September	January– September ²
Production, stainless steel ³	2,350,000	212,000	234,000	241,000	1,830,000
Components of U.S. supply:					
Stainless steel scrap receipts	907,000	72,800	73,300 ^r	73,300	672,000
Stainless steel scrap consumption	1,330,000	112,000	114,000 ^r	108,000	1,010,000
Imports for consumption:					
Chromite ore	131,000	34,300	2,430	9,600	102,000
Ferrochromium:					
More than 4% carbon	348,000	49,200	25,900	28,100	317,000
More than 3% but not more than 4% carbon	2,590	225	4,540	6,020	11,200
More than 0.5% but not more than 3% carbon	3,960	743	1,080	621	6,910
Not more than 0.5% carbon	48,300	4,040	3,420	1,850	24,200
Ferrochromium silicon	5,810	--	986	--	7,300
Total ferroalloy imports	408,000	54,200	35,900	36,600	366,000
Chromium metal ⁴	12,800	1,220	985	1,060	9,640
Stainless steel	1,030,000	76,500	76,500	67,500	665,000
Stainless steel scrap	192,000	26,100	27,900	23,100	204,000
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	417,000	33,500	34,600	32,700	305,000
Exports:					
Chromite ore	7,210	159	113	176	1,820
Chromium ferroalloys:					
High-carbon ferrochromium	723	51	119	--	476
Low-carbon ferrochromium	279	7	65	27	664
Ferrochromium silicon	73	--	20	--	20
Total ferroalloy exports	1,080	58	205	27	1,160
Chromium metal	801	42	42	30	391
Stainless steel	828,000	65,900	66,900	69,700	611,000
Stainless steel scrap	514,000	56,800	65,300	38,400	523,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	10,100	9,520	9,860	10,000	10,000
Government stockpile:					
Chromium ferroalloys	95,700	88,800	88,500	88,100	88,100
Chromium metal	3,960	3,910	3,910	3,910	3,910

^pPreliminary. ^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data that are not broken out by specific month(s).

³Data 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.

⁴Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS^{1,2}

(Metric tons, gross weight unless otherwise noted)

	2016		
	August	September	January– September ³
Consumption by end use:			
Steel:			
Carbon steel	199	144	1,550
High-strength low-alloy steel	130	130	1,190
Stainless and heat-resisting steel	31,000 ^r	29,200	273,000
Unspecified steel ⁴	2,720	2,720	24,400
Superalloys	421 ^r	419	3,840
Other alloys and uses ⁵	116	101	910
Total	34,600 ^r	32,700	305,000
Total, chromium content	19,800 ^r	18,800	175,000
Consumption by material:			
Low-carbon ferrochromium	1,790 ^r	1,740	16,000
High-carbon ferrochromium	30,200 ^r	28,400	266,000
Ferrochromium silicon	W	W	W
Chromium metal	157 ^r	157	1,430
Chromite ore	26	19	133
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	34,600 ^r	32,700	305,000
Total, chromium content	19,800 ^r	18,800	175,000
Consumer stocks:			
Low-carbon ferrochromium	1,430 ^r	1,480	1,480
High-carbon ferrochromium	7,540 ^r	7,730	7,730
Ferrochromium silicon	780 ^r	716	716
Chromium metal	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	9,860 ^r	10,000	10,000
Total, chromium content	5,730 ^r	5,870	5,870

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes estimates.

³May include revised data that are not broken out by specific month(s).

⁴Includes electrical, full alloy, tool, and unspecified steel end uses.

⁵Includes 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 MATERIALS¹

(metric tons)

	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2015:			
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
September	57,400	30,700	3,910

¹Data 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 METAL¹

	Chromite ore		Chromium ferroalloys ²			Chromium metal ³	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2015:							
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 ⁴	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
September	176	93	27	13	36	30	996
January–September ⁴	1,820	1,120	1,160	620	1,730	391	11,200

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes low- and high-carbon ferrochromium and ferrochromium silicon.

³Includes chromium metal, waste and scrap, and unwrought powders.

⁴May 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 METAL¹

(Metric tons)

	2015	2016		
	January– December	August	September	January– September ²
Chromite ore:				
More than 40% but less than 46% chromic oxide:				
Gross weight	34,600	598	325	21,000
Chromic oxide content	15,100	251	136	9,500
46% or more chromic oxide:				
Gross weight	96,100	1,840	9,280	81,100
Chromic oxide content	66,700	856	5,860	40,400
Total, all grades:				
Gross weight	131,000	2,430	9,600	102,000
Chromic oxide content	81,800	1,110	6,000	49,900
Ferrochromium:				
Low-carbon:³				
Not more than 0.5% carbon:				
Gross weight	48,300	3,420	1,850	24,200
Chromium content	32,800	2,320 ^r	1,290	16,000
More than 0.5% but not more than 3% carbon:				
Gross weight	3,960	1,080	621	6,910
Chromium content	2,660	693	381	4,370
Total, low-carbon:				
Gross weight	52,300	4,500	2,470	31,100
Chromium content	35,400	3,010	1,670	20,400
Medium-carbon:⁴				
Gross weight	2,590	4,540	6,020	11,200
Chromium content	1,320	2,310	2,960	5,610
High-carbon:⁵				
Gross weight	348,000	25,900	28,100	317,000
Chromium content	189,000	13,200	15,100	173,000
Total, all grades:				
Gross weight	402,000	35,000	36,600	359,000
Chromium content	226,000	18,500	19,700	199,000
Chromium metal:				
Unwrought powders	4,820	297	445	3,950
Waste and scrap	153	19	9	143
Other than waste and scrap and unwrought powders	7,870	669	609	5,550
Total, all grades	12,800	985	1,060	9,640

¹Revised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data that are not broken out by specific month(s).

³Ferrochromium containing not more than 3% carbon.

⁴Ferrochromium containing more than 3% carbon but not more than 4% carbon.

⁵Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2016, BY GRADE AND COUNTRY¹

Grade and country	September			January–September ²		
	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)
High-carbon ferrochromium:⁴						
Albania	171	116	\$218	999	677	\$1,190
Brazil	--	--	--	1,040	554	687
India	1,510	923	1,420	7,080	4,350	6,750
Kazakhstan	3,830	2,680	3,930	32,400	25,800	33,300
Oman	--	--	--	2,900	1,730	2,660
Russia	63	44	127	3,290	2,150	4,480
South Africa	22,000	10,900	15,000	242,000	121,000	168,000
Sweden	541	364	666	1,240	831	1,470
Switzerland	--	--	--	41	25	30
Turkey	--	--	--	19,300	12,800	21,100
Zimbabwe	--	--	--	6,120	3,460	5,920
Total	28,100	15,100	21,300	317,000	173,000	246,000
Medium-carbon ferrochromium:⁵						
Russia	--	--	--	225	121	120
South Africa	6,020	2,960	4,810	11,000	5,490	8,160
Total	6,020	2,960	4,810	11,200	5,610	8,280
Low-carbon ferrochromium:⁶						
More than 0.5% but not more than 3% carbon:						
Brazil	621	381	1,220	4,560	2,800	8,870
China	--	--	--	1,160	742	2,380
Hong Kong	--	--	--	25	15	47
Kazakhstan	--	--	--	1,160	806	2,850
Total	621	381	1,220	6,910	4,370	14,100
Not more than 0.5% carbon:						
Brazil	--	--	--	4,840	2,750	9,080
China	185	118	424	2,530	1,600	5,370
Germany	400	276	1,420	3,660	2,550	13,900
India	--	--	--	81	52	361
Japan	160	113	673	1,430	1,010	5,870
Kazakhstan	--	--	--	3,200	2,290	8,090
Mexico	40	27	306	90	58	540
Netherlands	--	--	--	1,510	999	3,640
Russia	446	316	1,220	4,530	3,170	11,900
South Africa	--	--	--	181	57	223
Turkey	620	435	1,610	2,180	1,520	5,770
United Kingdom	--	--	--	1	1	8
Total	1,850	1,290	5,640	24,200	16,000	64,600
All grades:						
Albania	171	116	218	999	677	1,190
Brazil	621	381	1,220	10,400	6,110	18,600
China	185	118	424	3,690	2,340	7,740
Germany	400	276	1,420	3,660	2,550	13,900
Hong Kong	--	--	--	25	15	47
India	1,510	923	1,420	7,160	4,400	7,110
Japan	160	113	673	1,430	1,010	5,870
Kazakhstan	3,830	2,680	3,930	36,700	28,900	44,300
Mexico	40	27	306	90	58	540
Netherlands	--	--	--	1,510	999	3,640
Oman	--	--	--	2,900	1,730	2,660
Russia	509	360	1,340	8,040	5,430	16,500
South Africa	28,000	13,900	19,800	254,000	126,000	177,000
Sweden	541	364	666	1,240	831	1,470
Switzerland	--	--	--	41	25	30
Turkey	620	435	1,610	21,400	14,400	26,900
United Kingdom	--	--	--	1	1	8
Zimbabwe	--	--	--	6,120	3,460	5,920
Total	36,600	19,700	33,000	359,000	199,000	333,000

(See footnotes at end of table)

TABLE 6—continued
 U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2016, BY GRADE AND COUNTRY¹

Grade and country	September			January–September ²		
	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data that are not broken out by specific month(s).

³Customs 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.

⁴Ferrocromium containing more than 4% carbon.

⁵Ferrocromium containing more than 3% carbon but not more than 4% carbon.

⁶Ferrocromium 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 COUNTRY¹

Grade and country	September		January–September ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
China	70	\$620	893	\$10,300
France	30	305	538	6,140
Germany	--	--	11	332
Japan	(4)	6	43	466
Korea, Republic of	--	--	(4)	3
Malaysia	--	--	(4)	4
Russia	204	1,360	551	3,800
Taiwan	--	--	1	30
United Kingdom	141	1,370	1,910	20,000
Total	445	3,660	3,950	41,000
Waste and scrap:				
Canada	9	23	71	164
China	--	--	3	33
France	--	--	19	271
India	--	--	(4)	4
Japan	--	--	16	352
Russia	--	--	1	31
United Kingdom	--	--	32	286
Total	9	23	143	1,140
Other than waste and scrap and unwrought powders:				
Austria	11	52	11	52
Brazil	--	--	(4)	4
Canada	14	1,130	182	13,300
China	7	59	373	2,750
France	149	1,630	1,400	15,000
Germany	56	338	508	3,150
Hong Kong	--	--	(4)	2
Japan	--	--	6	275
Malaysia	--	--	(4)	13
Netherlands	--	--	(4)	40
New Zealand	(4)	2	1	37
Romania	(4)	81	(4)	88
Russia	235	1,670	2,730	18,900
South Africa	134	86	134	86
Spain	--	--	119	822
Switzerland	--	--	(4)	21
Taiwan	--	--	(4)	5
United Kingdom	4	53	86	974
Total	609	5,100	5,550	55,400
All grades:				
Austria	11	52	11	52
Brazil	--	--	(4)	4
Canada	23	1,150	253	13,400
China	77	679	1,270	13,100
France	179	1,940	1,950	21,400
Germany	56	338	519	3,490
Hong Kong	--	--	(4)	2
India	--	--	(4)	4
Japan	(4)	6	66	1,090
Korea, Republic of	--	--	(4)	3
Malaysia	--	--	(4)	17
Netherlands	--	--	(4)	40
New Zealand	(4)	2	1	37
Romania	(4)	81	(4)	88
Russia	439	3,020	3,280	22,700
South Africa	134	86	134	86
Spain	--	--	119	822

(See footnotes at end of table)

TABLE 7—continued
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2016, BY GRADE AND BY COUNTRY¹

Grade and country	September		January–September ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Switzerland	--	--	(4)	21
Taiwan	--	--	1	35
United Kingdom	145	1,420	2,030	21,200
Total	1,060	8,770	9,640	97,600

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data that are not broken out by specific month(s).

³Customs 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.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2016¹

Stainless steel product	September		January–September ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	1,400	\$7,740	20,300	\$89,800
Flat-rolled (width > 600 mm)	50,400	86,100	440,000	756,000
Flat-rolled (width < 600 mm)	8,640	31,200	67,300	256,000
Bars and rods in irregular coils	1,840	5,200	11,800	34,300
Other bars and rods	2,700	20,800	26,200	203,000
Wire	802	9,510	7,190	89,400
Tubes, pipes, hollow profiles	4,000	35,700	38,300	321,000
Total	69,700	196,000	611,000	1,750,000
Stainless steel scrap	38,400	32,500	523,000	318,000
Grand total	108,000	229,000	1,130,000	2,070,000
Imports:				
Ingot	6,060	38,000	71,100	343,000
Flat-rolled (width > 600 mm)	34,100	70,600	287,000	614,000
Flat-rolled (width < 600 mm)	5,460	17,600	51,100	166,000
Bars and rods in irregular coils	1,760	4,410	23,000	59,700
Other bars and rods	7,360	27,200	97,700	345,000
Wire	3,160	13,500	33,500	139,000
Tubes, pipes, hollow profiles	9,570	54,100	102,000	610,000
Total	67,500	225,000	665,000	2,280,000
Stainless steel scrap	23,100	18,600	204,000	135,000
Grand total	90,600	244,000	870,000	2,410,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data that are not broken out by specific month(s).

³Export 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.