

Mineral Industry Surveys

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CHROMIUM IN OCTOBER 2008

On the basis of gross weight, consumption of chromium ferroalloys and metal in October 2008 increased 6% compared with consumption in September 2008, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of

chromium materials in October 2008, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of October 2008, and U.S. foreign trade data for selected chromium-containing materials in September 2008.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2007	2008			
	January-December	August	September	October	January-October ²
Production:					
Stainless steel production ³	2,170,000	153,000	121,000	129,000	1,760,000
Components of U.S. supply:					
Stainless steel scrap receipts	953,000	73,100	70,800	56,500	732,000
Stainless steel scrap consumption	1,430,000	114,000	108,000	102,000	1,130,000
Imports for consumption:					
Chromite ore	145,000	27,800	24,700	(4)	140,000 ⁵
Ferrochromium:					
More than 4% carbon	384,000	29,800	53,600	(4)	414,000 ⁵
More than 3% carbon but not more than 4% carbon	267	--	--	(4)	160 ⁵
More than 0.5%, but not more than 3% carbon	7,110	--	--	(4)	1,840 ⁵
Not more than 0.5% carbon	31,700	3,350	2,940	(4)	29,300 ⁵
Ferrochromium silicon	37,300	--	3,300	(4)	22,500 ⁵
Total ferroalloy imports	460,000	33,200	59,800	(4)	468,000 ⁵
Chromium metal ⁶	11,700	1,150	1,230	(4)	10,800 ⁵
Stainless steel	809,000	65,200	55,700	(4)	628,000 ⁵
Stainless steel scrap	118,000	11,300	10,000	(4)	119,000 ⁵
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	447,000	37,700	31,400	33,400	356,000
Exports:					
Chromite ore	37,600	678	468	(4)	5,160 ⁵
Chromium ferroalloys:					
High-carbon ferrochromium	24,700	998	362	(4)	9,290 ⁵
Low-carbon ferrochromium	16,200	374	350	(4)	11,900 ⁵
Ferrochromium silicon	328	100	--	(4)	210 ⁵
Total ferroalloy exports	41,100	1,470	713	(4)	21,400 ⁵
Chromium metal	1,210	123	33	(4)	861 ⁵
Stainless steel	476,000	43,600	34,200	(4)	385,000 ⁵
Stainless steel scrap	882,000	94,800	80,500	(4)	788,000 ⁵
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	XX	11,300	10,300	10,700	XX
Government stockpile:					
Chromium ferroalloys	XX	206,000	206,000	206,000	XX
Chromium metal	XX	4,850	4,820	4,820	XX

XX Not applicable. -- 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.

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.

⁴Data to be published in a subsequent issue.

⁵January through September data only.

⁶Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS
IN 2008^{1,2}

(Metric tons, gross weight unless otherwise noted)

	September	October	January- October ³
Consumption by end use:			
Alloy uses:			
Steel:			
Carbon steel	360	328	3,270
High-strength low-alloy steel	308	206	2,820
Stainless and heat-resisting steel	25,400	27,400	295,000
Full alloy steel	1,650	1,770	15,200
Tool steel	416	416	4,160
Steel end use, not reported by grade	2,140	2,140	24,000
Superalloys	462	455	4,690
Other alloys and uses ⁴	707	703	7,050
Total	31,400	33,400	356,000
Total, chromium content	18,300	19,600	208,000
Consumption by material:			
Low-carbon ferrochromium	2,450	2,530	26,000
High-carbon ferrochromium	25,800	27,900	298,000
Ferrochromium silicon	W	W	W
Chromium metal ⁵	249	245	2,540
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	31,400	33,400	356,000
Total, chromium content	18,300	19,600	208,000
Consumer stocks:			
Low-carbon ferrochromium	1,920	1,850	XX
High-carbon ferrochromium	7,150	7,420	XX
Ferrochromium silicon	1,090	1,220	XX
Chromium metal	111	131	XX
Chromium-aluminum alloy	W	W	XX
Other chromium materials	W	W	XX
Total	10,300	10,700	XX
Total, chromium content	6,030	6,260	XX

W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

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.

⁴Includes cast irons, welding and alloy hard-facing rods and materials, wear- and corrosion-resistant alloys, and aluminum, copper, magnetic, nickel, and other alloys.

⁵Includes waste and scrap and other.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF
CHROMIUM MATERIALS^{1,2}

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2007:			
October	108,000	60,500	5,090
November	104,000	57,800	5,030
December	99,400	55,400	4,970
2008:			
January	98,200	54,700	4,970
February	95,000	50,800	4,940
March	93,600	48,100	4,940
April	93,600	46,900	4,940
May	93,500	45,800	4,930
June	93,600	45,100	4,930
July	140,000	66,700	4,890
August	140,000	66,700	4,850
September	139,000	66,700	4,820
October	139,000	66,700	4,820

¹Data are rounded to no more than three significant digits.

²These Government stocks are reported by the Defense National Stockpile Center 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 National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL¹

Period	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)
2007:							
September	406	\$231	4,030	2,470	\$6,760	95	\$1,670
October	6,340	812	933	568	1,620	74	1,390
November	525	400	1,580	831	2,600	125	3,850
December	534	284	1,440	737	2,680	67	1,170
January-December ⁴	37,600	5,560	41,100	25,800	51,200	1,210	23,200
2008:							
January	482	255	2,040	957	4,470	96	1,600
February	657	424	2,210	905	3,650	30	845
March	582	282	2,260	946	3,600	131	1,940
April	778	411	4,680	1,810	6,500	80	1,610
May	369	242	4,370	2,040	10,800	129	2,040
June	325	197	2,740	1,180	6,020	128	2,540
July	818	472	899	323	1,130	110	2,210
August	678	372	1,470	544	2,060	123	2,490
September	468	446	713	291	896	33	1,460
January-September	5,160	3,100	21,400	9,000	39,200	861	16,700

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.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL¹

(Metric tons)

	2007	2008		
	January- December	August	September	January- September ²
Chromite ore:				
Not more than 40%:				
Gross weight	52	--	--	--
Chromic oxide content	19	--	--	--
More than 40% but less than 46% chromic oxide:				
Gross weight	26,400	3,180	1,540	12,600
Chromic oxide content	12,100	1,290	708	5,720
46% or more chromic oxide:				
Gross weight	119,000	24,600	23,200	128,000
Chromic oxide content	55,600	11,300	10,900	60,800
Total, all grades:				
Gross weight	145,000	27,800	24,700	140,000
Chromic oxide content	67,800	12,600	11,600	66,500
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5%:				
Gross weight	31,700	3,350	2,940	29,300
Chromium content	21,000	2,290	1,980	20,000
More than 0.5% but not more than 3%:				
Gross weight	7,110	--	--	1,840
Chromium content	4,020	--	--	1,160
Total, low-carbon:				
Gross weight	38,800	3,350	2,940	31,200
Chromium content	25,100	2,290	1,980	21,200
Medium-carbon: ⁴				
Gross weight	267	--	--	160
Chromium content	144	--	--	90
High-carbon: ⁵				
Gross weight	384,000	29,800	53,600	414,000
Chromium content	217,000	15,700	31,400	236,000
Total, all grades:				
Gross weight	423,000	33,200	56,500	446,000
Chromium content	242,000	18,000	33,400	257,000
Chromium metal:				
Unwrought powders	822	91	131	803
Waste and scrap	357	57	36	475
Other than waste and scrap and unwrought powders	10,500	1,010	1,060	9,510
Total, all grades:	11,700	1,150	1,230	10,800

-- 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.

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 2008,
BY GRADE AND BY 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						
Brazil	--	--	--	2,000	1,040	\$3,820
China	--	--	--	632	400	1,730
India	2,230	1,370	\$5,080	53,800	33,200	96,000
Italy	--	--	--	159	100	260
Kazakhstan	19,900	13,800	55,100	93,900	65,000	282,000
Mexico	--	--	--	38	28	123
Russia	--	--	--	25,500	16,500	66,900
South Africa	22,500	11,100	36,500	204,000	100,000	286,000
Sweden	--	--	--	529	326	882
Zimbabwe	8,960	5,150	25,000	33,200	19,400	87,200
Total	53,600	31,400	122,000	414,000	236,000	824,000
Medium-carbon ferrochromium,⁵ Russia						
	--	--	--	160	90	152
Low-carbon ferrochromium:⁶						
More than 0.5% but not more than 3%:						
China	--	--	--	340	212	1,200
Russia	--	--	--	1,080	726	3,690
South Africa	--	--	--	420	227	666
Total	--	--	--	1,840	1,160	5,560
Not more than 0.5% carbon:						
Brazil	--	--	--	37	25	116
China	816	504	4,530	4,000	2,560	20,100
Germany	320	222	2,990	4,070	2,800	21,600
Japan	740	490	2,710	3,240	2,040	9,190
Kazakhstan	46	31	170	468	310	1,140
Russia	954	693	7,020	16,900	11,900	95,600
South Africa	--	--	--	283	174	437
Sweden	60	40	220	301	205	1,300
Total	2,940	1,980	17,600	29,300	20,000	150,000
All grades:						
Brazil	--	--	--	2,030	1,070	3,940
China	816	504	4,530	4,970	3,170	23,100
Germany	320	222	2,990	4,070	2,800	21,600
India	2,230	1,370	5,080	53,800	33,200	96,000
Italy	--	--	--	159	100	260
Japan	740	490	2,710	3,240	2,040	9,190
Kazakhstan	20,000	13,800	55,300	94,400	65,300	283,000
Mexico	--	--	--	38	28	123
Russia	954	693	7,020	43,600	29,300	166,000
South Africa	22,500	11,100	36,500	205,000	100,000	287,000
Sweden	60	40	220	830	531	2,180
Zimbabwe	8,960	5,150	25,000	33,200	19,400	87,200
Total	56,500	33,400	139,000	446,000	257,000	980,000

-- 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.

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.

⁴Ferrochromium containing more than 4% carbon.

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

⁶Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2008,
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	19	\$223	223	\$1,640
France	--	--	30	90
Germany	5	135	9	212
Japan	13	631	32	1,430
Netherlands	--	--	20	173
Russia	54	458	305	2,150
United Kingdom	40	511	182	2,560
Total	131	1,960	803	8,260
Waste and scrap:				
Canada	9	49	9	49
China	5	25	64	568
Germany	--	--	(4)	10
Japan	--	--	25	397
Malaysia	2	11	25	201
Mexico	21	83	332	1,250
Singapore	--	--	18	308
Taiwan	--	--	2	39
Total	36	168	475	2,820
Other than waste and scrap and unwrought powders:				
China	194	2,100	1,820	16,400
France	266	3,930	2,570	31,400
Germany	25	300	168	3,300
India	--	--	126	170
Italy	--	--	1	20
Japan	--	--	15	216
Russia	444	5,400	2,790	28,700
United Kingdom	131	2,040	2,020	22,700
Total	1,060	13,800	9,510	103,000
All grades:				
Canada	9	49	9	49
China	217	2,350	2,110	18,600
France	266	3,930	2,600	31,500
Germany	29	435	178	3,530
India	--	--	126	170
Italy	--	--	1	20
Japan	13	631	72	2,040
Malaysia	2	11	25	201
Mexico	21	83	332	1,250
Netherlands	--	--	20	173
Russia	498	5,860	3,100	30,900
Singapore	--	--	18	308
Taiwan	--	--	2	39
United Kingdom	171	2,560	2,200	25,200
Total	1,230	15,900	10,800	114,000

-- 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.

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 2008¹

Stainless steel product	September		January-September	
	Gross weight (metric tons)	Value ² (thousands)	Gross weight (metric tons)	Value ² (thousands)
Exports:				
Ingot	1,820	\$9,970	21,400	\$108,000
Flat-rolled (width > 600 mm)	16,400	57,100	212,000	734,000
Flat-rolled (width < 600 mm)	7,410	35,200	72,100	419,000
Bars and rods in irregular coils	632	3,730	6,620	36,500
Other bars and rods	3,420	21,400	32,200	228,000
Wire	846	6,830	6,710	53,600
Tubes, pipes, hollow profiles	3,680	29,400	33,700	285,000
Total	34,200	164,000	385,000	1,860,000
Stainless steel scrap	80,500	106,000	788,000	999,000
Grand total	115,000	270,000	1,170,000	2,860,000
Imports:				
Ingot	7,480	32,200	94,100	426,000
Flat-rolled (width > 600 mm)	22,400	85,500	287,000	1,130,000
Flat-rolled (width < 600 mm)	3,710	18,100	36,700	186,000
Bars and rods in irregular coils	2,150	9,660	21,400	103,000
Other bars and rods	7,910	45,200	78,000	463,000
Wire	3,090	19,200	30,400	193,000
Tubes, pipes, hollow profiles	8,960	84,700	79,900	729,000
Total	55,700	295,000	628,000	3,230,000
Stainless steel scrap	10,000	10,800	119,000	196,000
Grand total	65,700	305,000	746,000	3,430,000

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

²Export 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.