



Mineral Industry Surveys

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CHROMIUM IN JANUARY 2009

On the basis of gross weight, consumption of chromium ferroalloys and metal in January 2009 increased 21% compared with revised consumption in December 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 January 2009, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of January 2009, and U.S. foreign trade data for selected chromium-containing materials in December 2008.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2007	2008			2009
	January- December	November	December	January- December ²	January
Production:					
Stainless steel production ³	2,170,000	95,000	68,300	1,930,000	124,000
Components of U.S. supply:					
Stainless steel scrap receipts	953,000	61,300	64,200	858,000	74,700
Stainless steel scrap consumption	1,430,000	103,000	92,300	1,330,000	112,000
Imports for consumption:					
Chromite ore	145,000	22,400	24,100	197,000	(4)
Ferrochromium:					
More than 4% carbon	384,000	12,100	38,700	469,000	(4)
More than 3% carbon but not more than 4% carbon	267	--	184	344	(4)
More than 0.5%, but not more than 3% carbon	7,110	--	408	2,250	(4)
Not more than 0.5% carbon	31,700	2,640	3,190	37,000	(4)
Ferrochromium silicon	37,300	--	1,680	24,200	(4)
Total ferroalloy imports	460,000	14,800	44,200	533,000	(4)
Chromium metal ⁵	11,700	579	421	13,100	(4)
Stainless steel	809,000	52,300	41,800	783,000	(4)
Stainless steel scrap	118,000	7,320	4,410	140,000	(4)
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	447,000	32,500	28,200	417,000	34,000
Exports:					
Chromite ore	37,600	413	475	7,000	(4)
Chromium ferroalloys:					
High-carbon ferrochromium	24,700	559	98	10,800	(4)
Low-carbon ferrochromium	16,200	134	118	13,400	(4)
Ferrochromium silicon	328	5	--	216	(4)
Total ferroalloy exports	41,100	699	217	24,500	(4)
Chromium metal	1,210	45	27	998	(4)
Stainless steel	476,000	28,100	25,300	471,000	(4)
Stainless steel scrap	882,000	59,800	61,300	1,000,000	(4)
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	XX	9,100	8,920	XX	10,300
Government stockpile:					
Chromium ferroalloys	XX	206,000	206,000	XX	204,000
Chromium metal	XX	4,820	4,820	XX	4,820

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.

⁵Includes 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)

	2008		2009 January
	December	January- December ³	
Consumption by end use:			
Alloy uses:			
Steel:			
Carbon steel	278	3,960	270
High-strength low-alloy steel	148	3,130	148
Stainless and heat-resisting steel	22,400	344,000	28,500
Full alloy steel	1,690	18,300	1,410
Tool steel	416	4,990	416
Steel end use, not reported by grade	2,100	28,200	2,090
Superalloys	437	5,580	443
Other alloys and uses ⁴	700	8,460	736
Total	28,200	417,000	34,000
Total, chromium content	16,700	243,000	20,100
Consumption by material:			
Low-carbon ferrochromium	2,200	30,800	2,330
High-carbon ferrochromium	23,200	348,000	28,400
Ferrochromium silicon	W	W	W
Chromium metal ⁵	229	3,010	235
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	28,200	417,000	34,000
Total, chromium content	16,700	243,000	20,100
Consumer stocks:			
Low-carbon ferrochromium	1,730	XX	1,720
High-carbon ferrochromium	5,840	XX	7,320
Ferrochromium silicon	1,160	XX	1,120
Chromium metal	117	XX	133
Chromium-aluminum alloy	W	XX	W
Other chromium materials	W	XX	W
Total	8,920	XX	10,300
Total, chromium content	5,280	XX	6,110

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	
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
November	139,000	66,700	4,820
December	139,000	66,700	4,820
2009, January	138,000	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:							
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
October	958	637	2,180	927	2,830	65	1,600
November	413	371	699	254	784	45	1,120
December	475	256	217	111	304	27	984
January-December	7,000	4,370	24,500	10,300	43,100	998	20,400

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	November	December	January- December 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	1,470	24,000	38,400
Chromic oxide content	12,100	646	11,100	17,600
46% or more chromic oxide:				
Gross weight	119,000	20,900	116	159,000
Chromic oxide content	55,600	10,800	54	76,400
Total, all grades:				
Gross weight	145,000	22,400	24,100	197,000
Chromic oxide content	67,800	11,400	11,100	94,000
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5%:				
Gross weight	31,700	2,640	3,190	37,000
Chromium content	21,000	1,820	2,160	25,300
More than 0.5% but not more than 3%:				
Gross weight	7,110	--	408	2,250
Chromium content	4,020	--	286	1,450
Total, low-carbon:				
Gross weight	38,800	2,640	3,600	39,300
Chromium content	25,100	1,820	2,450	26,700
Medium-carbon: ⁴				
Gross weight	267	--	184	344
Chromium content	144	--	114	204
High-carbon: ⁵				
Gross weight	384,000	12,100	38,700	469,000
Chromium content	217,000	6,400	25,600	270,000
Total, all grades:				
Gross weight	423,000	14,800	42,500	509,000
Chromium content	242,000	8,220	28,100	297,000
Chromium metal:				
Unwrought powders	822	51	53	1,050
Waste and scrap	357	(6)	7	523
Other than waste and scrap and unwrought powders	10,500	527	361	11,500
Total, all grades:	11,700	579	421	13,100

-- 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.

⁶Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6
 U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE AND FERROCHROMIUM SILICON IN 2008,
 BY GRADE AND BY COUNTRY¹

Grade and country	January-December ²			
	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Chromium content (metric tons)	Value ³ (thousands)
Chromite ore:				
Not more than 40% chromic oxide, South Africa	38,400	17,600	XX	\$9,470
46% or more chromic oxide, South Africa	159,000	76,400	XX	35,300
Total all grades, South Africa	197,000	94,000	XX	44,800
Ferrochromium silicon:				
Kazakhstan	20,600	XX	8,340	49,500
Russia	3,610	XX	1,470	8,370
Total	24,200	XX	9,810	57,900

XX Not applicable.

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

²May include revised data.

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.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2008,
BY GRADE AND BY COUNTRY¹

Grade and country	December			January-December 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	525	315	\$1,030	58,000	35,800	105,000
Italy	--	--	--	159	100	260
Kazakhstan	20,400	14,200	28,400	114,000	79,300	310,000
Mexico	--	--	--	38	28	123
Russia	15,100	9,670	23,000	40,500	26,200	89,900
South Africa	2,640	1,320	4,920	220,000	107,000	310,000
Sweden	76	48	169	718	448	1,370
Zimbabwe	--	--	--	33,200	19,400	87,200
Total	38,700	25,600	57,500	469,000	270,000	910,000
Medium-carbon ferrochromium, ⁵ Russia	184	114	314	344	204	466
Low-carbon ferrochromium:⁶						
More than 0.5% but not more than 3%:						
China	--	--	--	340	212	1,200
Russia	408	286	1,530	1,490	1,010	5,220
South Africa	--	--	--	420	227	666
Total	408	286	1,530	2,250	1,450	7,090
Not more than 0.5% carbon:						
Brazil	--	--	--	37	25	116
China	--	--	--	4,550	2,920	23,000
Germany	3	2	11	5,200	3,580	29,400
Japan	130	88	726	4,220	2,750	15,100
Kazakhstan	1,050	733	3,330	2,130	1,460	6,880
Russia	1,830	1,230	9,360	20,100	14,100	113,000
South Africa	125	75	332	408	249	769
Sweden	50	33	184	359	243	1,550
Total	3,190	2,160	13,900	37,000	25,300	190,000
All grades:						
Brazil	--	--	--	2,030	1,070	3,940
China	--	--	--	5,520	3,530	25,900
Germany	3	2	11	5,200	3,580	29,400
India	525	315	1,030	58,000	35,800	105,000
Italy	--	--	--	159	100	260
Japan	130	88	726	4,220	2,750	15,100
Kazakhstan	21,500	14,900	31,700	117,000	80,700	317,000
Mexico	--	--	--	38	28	123
Russia	17,500	11,300	34,200	62,500	41,500	209,000
South Africa	2,760	1,390	5,250	220,000	108,000	312,000
Sweden	126	81	353	1,080	691	2,910
Zimbabwe	--	--	--	33,200	19,400	87,200
Total	42,500	28,100	73,300	509,000	297,000	1,110,000

-- 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 8
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2008,
BY GRADE AND BY COUNTRY¹

Grade and country	December		January-December ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
China	40	\$537	396	\$3,720
France	3	38	33	128
Germany	--	--	38	681
Japan	--	--	36	1,610
Netherlands	--	--	20	173
Russia	--	--	322	2,240
United Kingdom	11	282	205	3,140
Total	53	857	1,050	11,700
Waste and scrap:				
Canada	--	--	9	49
China	--	--	66	582
Germany	--	--	(4)	10
Japan	--	--	25	397
Malaysia	--	--	25	201
Mexico	7	26	377	1,400
Singapore	--	--	19	323
Taiwan	--	--	2	39
Total	7	26	523	3,000
Other than waste and scrap and unwrought powders:				
China	158	2,630	2,290	22,900
France	190	2,530	3,050	38,200
Germany	2	62	238	4,270
India	--	--	126	170
Italy	--	--	1	20
Japan	--	--	17	255
Russia	--	--	3,340	35,400
United Kingdom	11	188	2,490	29,500
Total	361	5,410	11,500	131,000
All grades:				
Canada	--	--	9	49
China	198	3,170	2,760	27,200
France	192	2,570	3,080	38,300
Germany	2	62	276	4,960
India	--	--	126	170
Italy	--	--	1	20
Japan	--	--	78	2,260
Malaysia	--	--	25	201
Mexico	7	26	377	1,400
Netherlands	--	--	20	173
Russia	--	--	3,660	37,700
Singapore	--	--	19	323
Taiwan	--	--	2	39
United Kingdom	22	470	2,690	32,600
Total	421	6,300	13,100	145,000

-- 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.