

# Mineral Industry Surveys

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## CHROMIUM IN AUGUST 2023

Stainless steel production decreased slightly in August 2023 compared with production in July 2023 and decreased by 13% compared with production in August 2022 (table 1). The Defense Logistics Agency Strategic Materials office announced the sale of approximately 910 metric tons (1,000 short tons) of high-carbon ferrochromium from the government stockpile in August 2023. There were no sales of chromium metal in August 2023 (Defense Logistics Agency, 2023).

The leading import sources for ferrochromium in August 2023 into the United States were, in descending order of quantity by gross weight, India, Kazakhstan, and South Africa, (table 4), whereas the leading import sources for chromium metal were China, the United Kingdom, and Russia (table 5).

Imports of chromite ore, chromium ferroalloys, stainless

steel, and stainless-steel scrap commonly fluctuate from month to month (fig. 1, table 1). Imports of chromite ore increased by 13% in August 2023 compared with imports in July 2023 but decreased by 56% compared with imports in August 2022. Imports of all grades of chromium ferroalloys, including ferrochromium silicon, decreased by 56% compared with imports in July 2023 and decreased by 87% compared with imports in August 2022 (table 3). Stainless steel imports in August 2023 decreased by 5% compared with imports in July 2023 and decreased by 19% compared with imports in August 2022. Stainless steel scrap imports in August 2023 increased by 20% compared with imports in July 2023 and were unchanged compared than those in August 2022 (table 1).

The U.S. chromium metal (99% chromium) average price

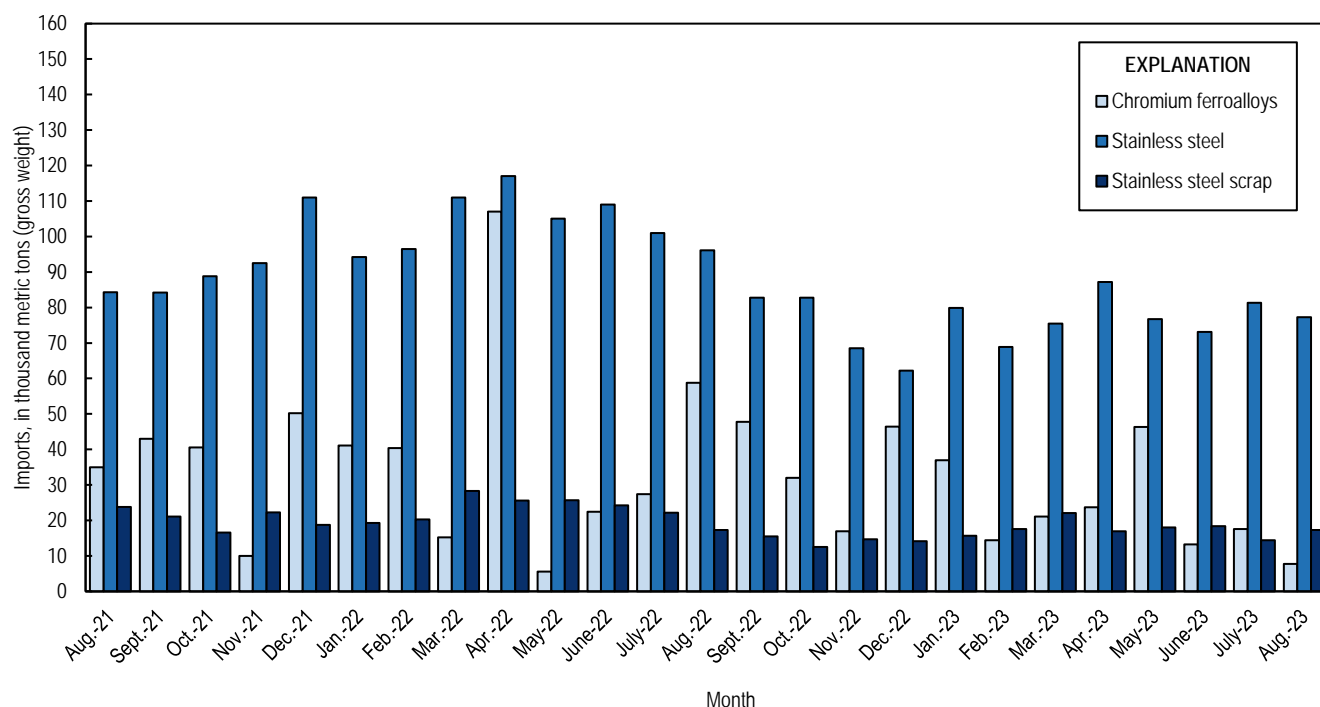


Figure 1. Chromium ferroalloys, stainless steel, and stainless steel scrap imports from August 2021 through August 2023. Source: U.S. Census Bureau.

was \$5.22 per pound in August 2023, slightly less than the average price in July 2023 and 35% less than the average price in August 2022. The U.S. high-carbon ferrochromium (62%–70% chromium) average price was 219.25 cents per pound of contained chromium in August 2023, 5% less than the average price in July 2023 and 37% less than the average price in August 2022 (fig. 2) (CRU Group, 2023).

Industry News

Jubilee Metals Group Plc (United Kingdom) commissioned the expansion of its chromite processing plant located on the western limb of the Bushveld Complex. The upgraded plant increased its processing capacity from 600,000 metric tons per year (t/yr) by an additional 360,000 t/yr of chromite concentrate processing capacity. Jubilee also announced it was in discussions to add an additional 600,000 t/yr of processing capacity through an agreement with an unnamed partner (Jubilee Metals Group Plc, 2023, undated).

The European Commission launched an investigation in August into possible dumping of stainless steel imports from Indonesia that were shipped via Taiwan, Turkey, and Vietnam to avoid anti-dumping duties. This investigation was prompted by a request from the European Steel Association in July following changes in the pattern of trade from Indonesia, Taiwan, Turkey, and Vietnam (European Commission, 2023).

Defense Logistics Agency, 2023, DLA Strategic Materials announces BOA sales for August 2023: Fort Belvoir, VA, Defense Logistics Agency Strategic Materials Announcement DLA-SM-23-3237, September 6. (Accessed October 4, 2023, at <https://www.dla.mil/Portals/104/Documents/Strategic%20Materials/Announcements/3237%20BOA%20All%20August%202023%20Sales.pdf?ver=r2L6hJt0hSSlo9VTHeKWAA%3d%3d>.)

European Commission, 2023, Commission implementing regulation (EU) 2023/1632 of 11 August 2023: Brussels, Belgium, Official Journal of the European Union, August 11. (Accessed October 11, 2023, at [https://eur-lex.europa.eu/eli/reg\\_impl/2023/1632/oj](https://eur-lex.europa.eu/eli/reg_impl/2023/1632/oj).)

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Jubilee Metals Group Plc, undated, Our projects—Inyoni Chrome: London, United Kingdom, Jubilee Metals Group Plc website. (Accessed October 4, 2023, at <https://jubileemetalsgroup.com/operations/chrome/>.)

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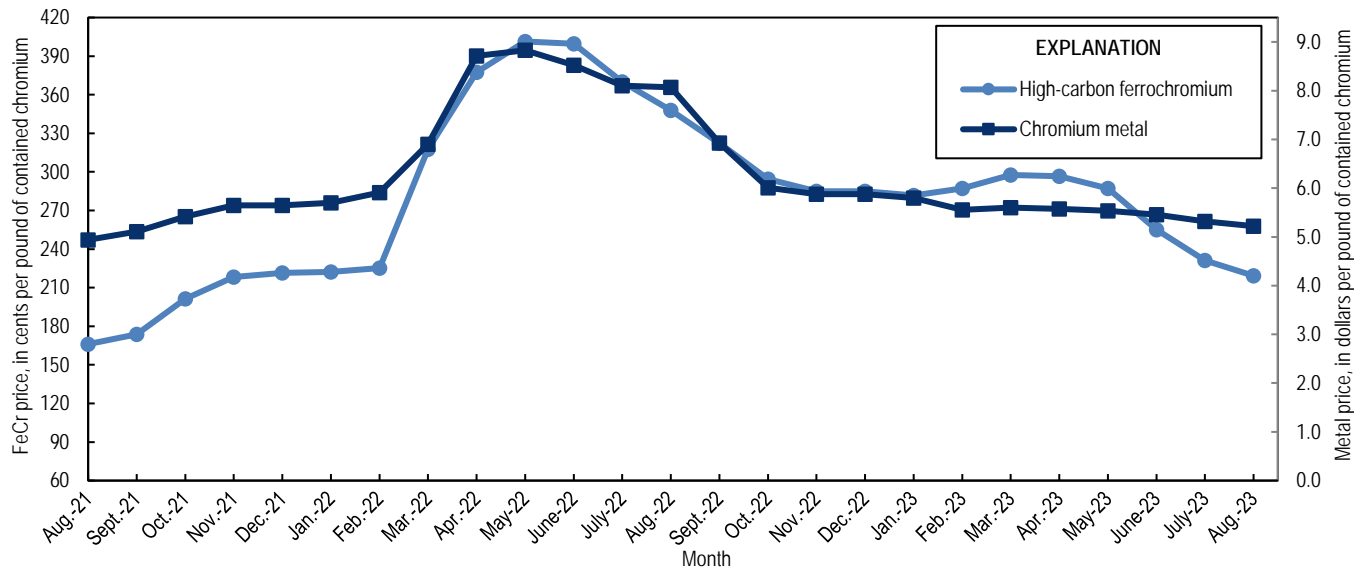


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium (FeCr) and chromium metal from August 2021 through August 2023. Source: CRU Group.

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

(Metric tons, gross weight)

	2022	2023			
	January– December	June	July	August	January– August
Production, stainless steel <sup>2</sup>	2,020,000	158,000	149,000	146,000	1,240,000
Components of U.S. supply:					
Stainless steel scrap receipts <sup>e</sup>	537,000	38,300	36,100	40,600	305,000
Stainless steel scrap consumption <sup>e</sup>	806,000	56,700	53,500	60,100	451,000
Imports for consumption:					
Chromite ore	121,000	1,300	1,830	2,070	66,900
Ferrochromium:					
More than 4% carbon	399,000	10,300	14,500	3,980	155,000
More than 3% but not more than 4% carbon	36	--	--	20	39
More than 0.5% but not more than 3% carbon	2,250	150	200	200	1,830
Not more than 0.5% carbon	42,100	2,720	2,860	3,500	22,400
Ferrochromium silicon	17,100	--	--	--	1,350
Total ferroalloy imports	461,000	13,200	17,600	7,690	181,000
Chromium metal <sup>3</sup>	14,900	1,180	1,120	909	8,200
Stainless steel	1,130,000	73,100	81,300	77,300	620,000
Stainless steel scrap	240,000	18,400	14,400	17,300	140,000
Exports:					
Chromite ore	2,220	167	230	312	1,580
Chromium ferroalloys:					
High-carbon ferrochromium	3,640	413	25	101	3,480
Low-carbon ferrochromium	637	9	63	--	327
Ferrochromium silicon	40	42	1	21	83
Total ferroalloy exports	4,310	463	89	122	3,890
Chromium metal	567	78	16	49	296
Stainless steel	350,000	28,000	26,100	28,900	235,000
Stainless steel scrap	403,000	27,100	39,200	47,000	354,000

<sup>e</sup>Estimated. -- Zero.

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

<sup>2</sup>Source: American Iron and Steel Institute.

<sup>3</sup>Includes waste and scrap and other.

TABLE 2  
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL<sup>1</sup>

	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)
2022:							
August	194	\$128	163	47	\$164	32	\$937
September	346	194	823	494	729	73	1,620
October	180	157	5	3	11	17	528
November	64	54	36	22	32	22	730
December	180	151	896	432	841	83	1,530
January–December <sup>4</sup>	2,220	1,640	4,310	2,170	4,420	567	12,800
2023:							
January	124	110	1,020	398	1,130	43	1,120
February	158	145	418	141	446	20	675
March	129	121	505	117	455	26	846
April	203	173	279	64	311	16	488
May	255	223	989	373	896	49	1,830
June	167	145	463	104	424	78	2,360
July	230	178	89	37	113	16	589
August	312	233	122	27	146	49	839
January–August <sup>4</sup>	1,580	1,330	3,890	1,260	3,920	296	8,750

<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 3  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND  
CHROMIUM METAL<sup>1</sup>

(Metric tons)

	2022	2023		
	January– December	July	August	January– August <sup>2</sup>
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	5,750	257	655	3,600
Chromic oxide content	1,750	101	131	955
More than 40% but less than 46% chromic oxide:				
Gross weight	17,100	1,280	1,380	13,400
Chromic oxide content	7,400	553	593	5,810
46% or more chromic oxide:				
Gross weight	98,200	293	34	50,000
Chromic oxide content	83,300	178	27	43,600
Total, all grades:				
Gross weight	121,000	1,830	2,070	66,900
Chromic oxide content	92,500	832	751	50,400
Ferrochromium:				
Low-carbon: <sup>3</sup>				
Not more than 0.5% carbon:				
Gross weight	42,100	2,860	3,500	22,400
Chromium content	29,500	2,040	2,340	15,400
More than 0.5% but not more than 3% carbon:				
Gross weight	2,250	200	200	1,830
Chromium content	1,520	123	128	1,210
Total, low-carbon:				
Gross weight	44,300	3,060	3,700	24,200
Chromium content	31,000	2,160	2,470	16,700
Medium-carbon: <sup>4</sup>				
Gross weight	36	--	20	39
Chromium content	25	--	14	28
High-carbon: <sup>5</sup>				
Gross weight	399,000	14,500	3,980	155,000
Chromium content	224,000	7,680	2,400	85,300
Total, all grades:				
Gross weight	444,000	17,600	7,690	180,000
Chromium content	256,000	9,840	4,890	102,000
Chromium metal:				
Unwrought powders	13,500	782	782	6,990
Waste and scrap	519	47	36	291
Other than waste and scrap and unwrought powders	927	288	91	920
Total, all grades	14,900	1,120	909	8,200

-- 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 4  
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2023, BY GRADE AND COUNTRY OR LOCALITY<sup>1</sup>

Grade and country or locality	August			January–August <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)
High-carbon ferrochromium: <sup>4</sup>						
Albania	26	16	\$52	1,010	675	\$2,790
Brazil	--	--	--	800	444	776
China	--	--	--	27	19	81
Finland	--	--	--	12,000	6,330	15,000
India	972	619	1,520	7,830	4,940	13,700
Kazakhstan	1,050	719	3,140	25,600	17,500	102,000
Oman	--	--	--	189	112	293
South Africa	1,500	760	2,080	80,500	39,400	90,500
Sweden	431	290	1,450	4,210	2,810	14,900
Turkey	--	--	--	253	170	866
Switzerland	--	--	--	1,010	651	3,400
Zimbabwe	--	--	--	21,900	12,200	30,100
Total	3,980	2,400	8,240	155,000	85,300	274,000
Medium-carbon ferrochromium, India <sup>5</sup>	20	14	114	39	28	221
Low-carbon ferrochromium: <sup>6</sup>						
More than 0.5% but not more than 3% carbon:						
Brazil	100	63	317	850	531	2,710
China	--	--	--	25	16	105
India	100	66	398	100	66	398
Kazakhstan	--	--	--	856	599	5,860
Total	200	128	715	1,830	1,210	9,080
Not more than 0.5% carbon:						
Brazil	--	--	--	814	485	1,570
China	--	--	--	235	164	922
Germany	690	475	3,590	7,800	5,360	43,000
India	1,230	765	4,970	5,120	3,500	20,600
Japan	148	99	1,220	1,380	940	11,800
Kazakhstan	1,130	794	5,920	5,730	4,070	36,600
Russia	--	--	--	80	59	555
Turkey	300	209	1,360	1,240	860	7,170
United Kingdom	--	--	--	1	1	23
Total	3,500	2,340	17,100	22,400	15,400	122,000
All grades:						
Albania	26	16	52	1,010	675	2,790
Brazil	100	63	317	2,460	1,460	5,060
China	--	--	--	287	199	1,110
Finland	--	--	--	12,000	6,330	15,000
Germany	690	475	3,590	7,800	5,360	43,000
India	2,320	1,460	7,000	13,100	8,540	34,900
Japan	148	99	1,220	1,380	940	11,800
Kazakhstan	2,170	1,510	9,060	32,100	22,200	144,000
Oman	--	--	--	189	112	293
Russia	--	--	--	80	59	555
South Africa	1,500	760	2,080	80,500	39,400	90,500
Sweden	431	290	1,450	4,210	2,810	14,900
Switzerland	--	--	--	1,010	651	3,400
Turkey	300	209	1,360	1,490	1,030	8,040
United Kingdom	--	--	--	1	1	23
Zimbabwe	--	--	--	21,900	12,200	30,100
Total	7,690	4,890	26,100	180,000	102,000	406,000

-- 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% carbon but not more than 4% carbon.

<sup>6</sup>Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2023,  
BY GRADE AND BY COUNTRY OR LOCALITY<sup>1</sup>

Grade and country or locality	August		January–August <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (metric tons)	Value <sup>3</sup> (thousands)
Unwrought powders:				
China	397	\$3,660	3,510	\$34,300
France	--	--	272	4,470
Germany	--	--	100	852
India	20	247	78	989
Japan	--	--	(4)	5
Korea, Republic of	16	217	31	471
Russia	124	794	455	4,330
United Kingdom	226	3,590	2,540	41,000
Total	782	8,510	6,990	86,400
Waste and scrap:				
Canada	15	127	91	631
China	--	--	12	323
Germany	--	--	(4)	13
Japan	--	--	25	229
Korea, Republic of	--	--	(4)	5
Russia	1	11	1	11
United Kingdom	20	180	161	1,330
Total	36	317	291	2,540
Other than waste and scrap and unwrought powders:				
Canada	--	--	(4)	221
China	1	103	9	783
France	76	803	740	11,300
Germany	13	787	30	2,080
Japan	--	--	4	120
Korea, Republic of	--	--	(4)	33
Malaysia	--	--	(4)	8
Russia	--	--	80	671
South Africa	--	--	21	199
Switzerland	(4)	16	(4)	16
Taiwan	(4)	30	(4)	59
United Kingdom	--	--	35	611
Total	91	1,740	920	16,100
All grades:				
Canada	15	127	91	851
China	398	3,760	3,530	35,400
France	76	803	1,010	15,800
Germany	13	787	130	2,940
India	20	247	78	989
Japan	--	--	29	354
Korea, Republic of	16	217	32	509
Malaysia	--	--	(4)	8
Russia	125	805	536	5,010
South Africa	--	--	21	199
Switzerland	(4)	16	(4)	16
Taiwan	(4)	30	(4)	59
United Kingdom	247	3,770	2,740	42,900
Total	909	10,600	8,200	105,000

-- 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>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6  
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2023<sup>1</sup>

Stainless steel product	August		January–August <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (metric tons)	Value <sup>3</sup> (thousands)
<b>Exports:</b>				
Ingot	915	\$6,990	7,800	\$55,900
Flat-rolled (width > 600 mm)	15,700	65,700	126,000	540,000
Flat-rolled (width < 600 mm)	4,470	47,200	40,000	383,000
Bars and rods in irregular coils	467	2,480	1,970	13,500
Other bars and rods	2,800	38,900	24,300	332,000
Wire	606	14,200	4,980	108,000
Tubes, pipes, hollow profiles	3,950	47,800	30,600	334,000
Total	28,900	223,000	235,000	1,770,000
Stainless steel scrap	47,000	37,900	354,000	297,000
Grand total	76,000	261,000	589,000	2,060,000
<b>Imports:</b>				
Ingot	8,720	28,400	109,000	327,000
Flat-rolled (width > 600 mm)	35,700	117,000	221,000	802,000
Flat-rolled (width < 600 mm)	4,600	20,900	37,300	183,000
Bars and rods in irregular coils	2,170	10,700	23,600	116,000
Other bars and rods	10,900	65,800	98,300	601,000
Wire	3,130	18,200	26,100	160,000
Tubes, pipes, hollow profiles	12,100	113,000	104,000	871,000
Total	77,300	374,000	620,000	3,060,000
Stainless steel scrap	17,300	17,600	140,000	163,000
Grand total	94,600	391,000	760,000	3,230,000

<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 incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.