

Mineral Industry Surveys

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CHROMIUM IN OCTOBER 2023

Stainless steel production increased by 4% in October 2023 compared with production in September 2023 and decreased slightly compared with production in October 2022 (table 1). The leading import sources for ferrochromium in October 2023 into the United States were, in descending order of quantity by gross weight and chromium content, Kazakhstan, South Africa, and India (table 4), whereas the leading import sources for chromium metal were China, the United Kingdom, and France (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 decreased by 92% in October 2023 compared with imports in September 2023 and decreased by 56% compared with imports in October 2022. Imports of all grades of chromium

ferroalloys, including ferrochromium silicon, decreased by 62% compared with imports in September 2023 and decreased by 53% compared with imports in October 2022 (table 3). Stainless steel imports in October 2023 increased by 31% compared with imports in September 2023 and increased by 10% compared with imports in October 2022. Stainless steel scrap imports in October 2023 increased by 5% compared with imports in September 2023 and were 35% more than those in October 2022 (table 1).

The U.S. chromium metal (99% chromium) average price was \$4.950 per pound in October 2023, 3% more than the average price in September 2023 and 15% less than the average price in October 2022. The U.S. high-carbon ferrochromium (minimum 62% chromium) average price was 214.38 cents per pound of contained chromium in October

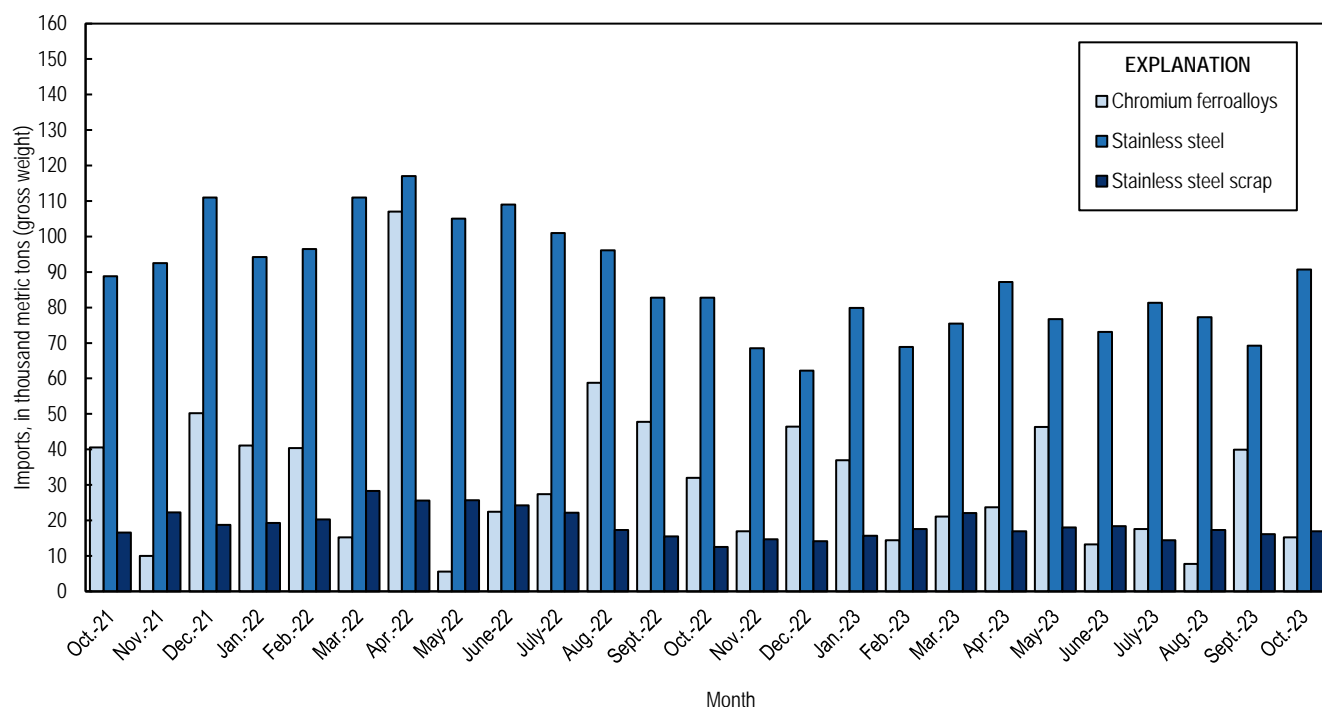


Figure 1. Chromium ferroalloys, stainless steel, and stainless steel scrap imports from October 2021 through October 2023. Source: U.S. Census Bureau.

2023, essentially unchanged compared with the average price in September 2023 and 26% less than the average price in October 2022 (fig. 2) (Argus Metals International, 2023).

Glencore plc, 2023, Third quarter 2023 production report: Baar, Switzerland. Glencore plc news release, October 30, 17 p. (Accessed December 1, 2023, at https://www.glencore.com/.rest/api/v1/documents/static/a69c4068-eef7-4db1-9042-ed53166c287c/GLEN_2023-Q3_ProductionReport.pdf.)

Industry News

Glencore plc (Switzerland) lowered its ferrochromium production guidance for 2023 by approximately 110,000 t to 1.2 million metric tons because it took an extra smelter offline for 3 months in response to high electricity costs and market conditions in South Africa. Annual chromite ore production, however, was not expected to decrease significantly (Glencore plc, 2023, p. 1–2).

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References Cited

Argus Metals International, 2023, Prices & data: Argus Media Group—Argus Nonferrous Metals, October 26. (Accessed December 14, 2023, via <https://www.argusmedia.com/metals>.)

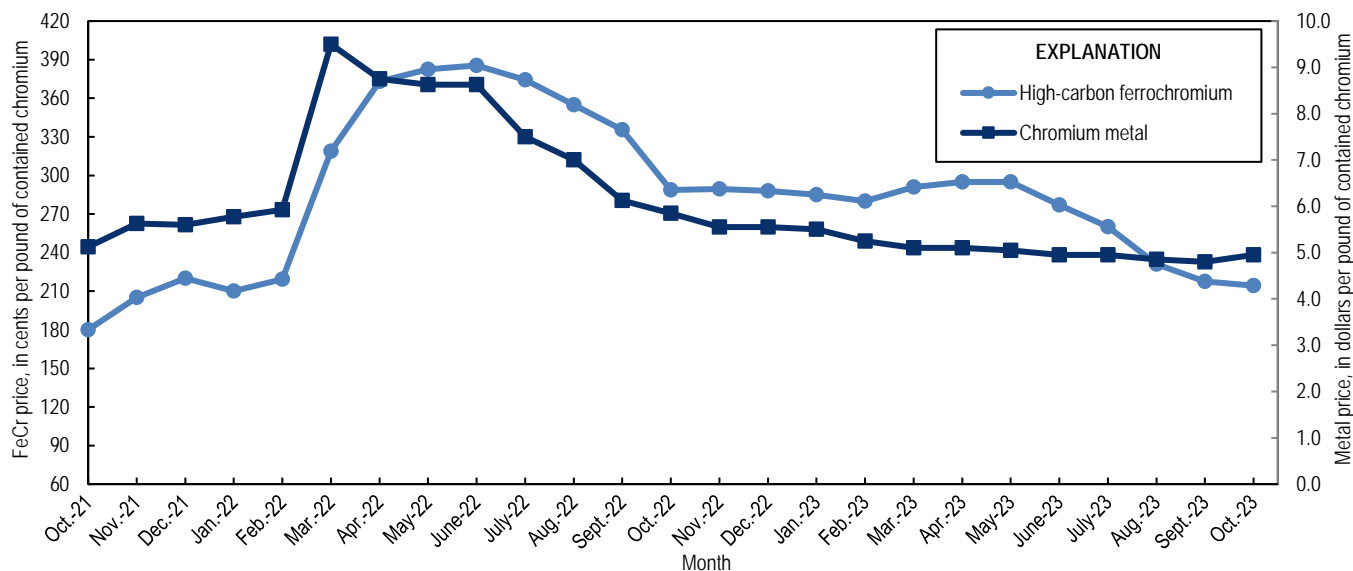


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium (FeCr) and chromium metal from October 2021 through October 2023. Source: Argus Metals International.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2022	2023			
	January– December	August	September	October	January– October
Production, stainless steel ²	2,020,000	146,000	146,000	151,000	1,540,000
Components of U.S. supply:					
Stainless steel scrap receipts	537,000 ^e	40,600 ^e	28,000	29,100 ^e	362,000 ^e
Stainless steel scrap consumption	806,000 ^e	60,100 ^e	40,800	42,300 ^e	534,000 ^e
Imports for consumption:					
Chromite ore	121,000	2,070	24,500	2,070	93,500
Ferrochromium:					
More than 4% carbon	399,000	3,980	38,200	9,220	203,000
More than 3% but not more than 4% carbon	36	20	--	30	69
More than 0.5% but not more than 3% carbon	2,250	200	54	104	1,990
Not more than 0.5% carbon	42,100	3,500	1,690	5,500	29,600
Ferrochromium silicon	17,100	--	--	324	1,680
Total ferroalloy imports	461,000	7,690	39,900	15,200	236,000
Chromium metal ³	14,900	909	841	1,190	10,200
Stainless steel	1,130,000	77,300	69,200	90,700	780,000
Stainless steel scrap	240,000	17,300	16,100	16,900	173,000
Exports:					
Chromite ore	2,220	312	218	92	1,890
Chromium ferroalloys:					
High-carbon ferrochromium	3,640	101	30	141	3,650
Low-carbon ferrochromium	637	--	--	--	327
Ferrochromium silicon	40	21	--	--	83
Total ferroalloy exports	4,310	122	30	141	4,060
Chromium metal	567	49	48	47	392
Stainless steel	350,000	28,900	23,900	26,900	286,000
Stainless steel scrap	403,000	47,000	47,200	49,600	450,000

^eEstimated. -- Zero.

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

²Source: American Iron and Steel Institute.

³Includes waste and scrap and other.

TABLE 2
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)
2022:							
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 ⁴	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
September	218	161	30	18	33	48	1,030
October	92	83	141	59	142	47	1,030
January–October ⁴	1,890	1,570	4,060	1,340	4,100	392	10,800

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 3
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND
CHROMIUM METAL¹

(Metric tons)

	2022	2023		
	January– December	September	October	January– October ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	5,750	76	200	3,880
Chromic oxide content	1,750	30	78	1,060
More than 40% but less than 46% chromic oxide:				
Gross weight	17,100	1,530	840	15,700
Chromic oxide content	7,400	656	366	6,830
46% or more chromic oxide:				
Gross weight	98,200	22,900	1,030	73,900
Chromic oxide content	83,300	21,000	494	65,100
Total, all grades:				
Gross weight	121,000	24,500	2,070	93,500
Chromic oxide content	92,500	21,700	938	73,000
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5% carbon:				
Gross weight	42,100	1,690	5,500	29,600
Chromium content	29,500	809	3,530	19,800
More than 0.5% but not more than 3% carbon:				
Gross weight	2,250	54	104	1,990
Chromium content	1,520	33	65	1,310
Total, low-carbon:				
Gross weight	44,300	1,740	5,600	31,600
Chromium content	31,000	842	3,590	21,100
Medium-carbon: ⁴				
Gross weight	36	--	30	69
Chromium content	25	--	21	49
High-carbon: ⁵				
Gross weight	399,000	38,200	9,220	203,000
Chromium content	224,000	22,300	5,440	113,000
Total, all grades:				
Gross weight	444,000	39,900	14,900	234,000
Chromium content	256,000	23,200	9,050	134,000
Chromium metal:				
Unwrought powders	13,500	711	1,030	8,730
Waste and scrap	519	22	29	341
Other than waste and scrap and unwrought powders	927	109	133	1,160
Total, all grades	14,900	841	1,190	10,200

-- 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).

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 4
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2023, BY GRADE AND COUNTRY OR LOCALITY¹

Grade and country or locality	October			January–October 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	25	16	\$39	1,090	723	\$2,910
Brazil	--	--	--	900	500	896
China	--	--	--	27	19	81
Finland	--	--	--	12,000	6,330	15,000
India	204	136	473	8,440	5,340	14,800
Kazakhstan	3,940	2,710	12,600	32,000	21,900	122,000
Oman	54	33	73	243	145	366
South Africa	4,500	2,220	5,360	99,400	48,700	112,000
Sweden	490	321	1,220	4,720	3,150	16,200
Switzerland	--	--	--	253	170	866
Turkey	--	--	--	15,500	10,400	40,600
Zimbabwe	--	--	--	28,200	15,700	36,900
Total	9,220	5,440	19,800	203,000	113,000	362,000
Medium-carbon ferrochromium, India ⁵	30	21	159	69	49	381
Low-carbon ferrochromium: ⁶						
More than 0.5% but not more than 3% carbon:						
Brazil	104	65	305	1,010	628	3,160
China	--	--	--	25	16	105
India	--	--	--	100	66	398
Kazakhstan	--	--	--	856	599	5,860
Total	104	65	305	1,990	1,310	9,530
Not more than 0.5% carbon:						
Brazil	--	--	--	1,010	612	2,190
China	10	7	60	270	188	1,090
Germany	918	633	4,770	9,090	6,250	49,800
India	1,400	641	5,030	7,370	4,380	28,900
Japan	164	113	1,330	1,710	1,170	14,500
Kazakhstan	2,590	1,840	12,600	8,340	5,930	49,400
Russia	5	4	16	85	63	572
Turkey	417	291	1,700	1,700	1,190	9,140
United Kingdom	--	--	--	1	1	26
Total	5,500	3,530	25,500	29,600	19,800	156,000
All grades:						
Albania	25	16	39	1,090	723	2,910
Brazil	104	65	305	2,920	1,740	6,250
China	10	7	60	322	223	1,270
Finland	--	--	--	12,000	6,330	15,000
Germany	918	633	4,770	9,090	6,250	49,800
India	1,630	798	5,660	16,000	9,840	44,500
Japan	164	113	1,330	1,710	1,170	14,500
Kazakhstan	6,530	4,550	25,300	41,200	28,500	177,000
Oman	54	33	73	243	145	366
Russia	5	4	16	85	63	572
South Africa	4,500	2,220	5,360	99,400	48,700	112,000
Sweden	490	321	1,220	4,720	3,150	16,200
Switzerland	--	--	--	253	170	866
Turkey	417	291	1,700	17,200	11,600	49,700
United Kingdom	--	--	--	1	1	26
Zimbabwe	--	--	--	28,200	15,700	36,900
Total	14,900	9,050	45,800	234,000	134,000	527,000

-- 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(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.

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 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2023,
BY GRADE AND BY COUNTRY OR LOCALITY¹

Grade and country or locality	October		January–October ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
Canada	--	--	(4)	\$6
China	614	\$5,490	4,480	43,200
France	1	68	274	4,540
Germany	1	10	101	863
India	20	217	117	1,420
Japan	--	--	(4)	5
Korea, Republic of	16	217	47	688
Russia	--	--	495	4,600
Spain	4	20	4	20
United Kingdom	370	5,350	3,210	50,900
Total	1,030	11,400	8,730	106,000
Waste and scrap:				
Canada	8	46	110	764
China	--	--	12	323
Germany	--	--	(4)	13
Japan	1	9	26	238
Korea, Republic of	--	--	(4)	5
Russia	--	--	1	11
Taiwan	--	--	12	47
United Kingdom	20	166	180	1,490
Total	29	221	341	2,890
Other than waste and scrap and unwrought powders:				
Brazil	--	--	41	809
Canada	--	--	(4)	221
China	1	92	10	927
France	111	1,320	908	13,300
Germany	1	103	31	2,230
Japan	(4)	6	5	142
Korea, Republic of	--	--	(4)	50
Malaysia	(4)	16	(4)	24
Russia	20	275	110	1,080
South Africa	--	--	21	199
Switzerland	--	--	(4)	16
Taiwan	--	--	(4)	59
United Kingdom	(4)	28	35	643
Total	133	1,830	1,160	19,700
All grades:				
Brazil	--	--	41	809
Canada	8	46	110	991
China	615	5,580	4,500	44,400
France	112	1,380	1,180	17,800
Germany	2	113	132	3,110
India	20	217	117	1,420
Japan	1	14	31	385
Korea, Republic of	16	217	48	743
Malaysia	(4)	16	(4)	24
Russia	20	275	606	5,690
South Africa	--	--	21	199
Spain	4	20	4	20
Switzerland	--	--	(4)	16
Taiwan	--	--	12	106
United Kingdom	390	5,550	3,430	53,000
Total	1,190	13,400	10,200	129,000

-- 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(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 6
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2023¹

Stainless steel product	October		January–October ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	748	\$6,490	9,180	\$68,200
Flat-rolled (width > 600 mm)	14,600	56,500	153,000	648,000
Flat-rolled (width < 600 mm)	4,150	40,700	48,500	467,000
Bars and rods in irregular coils	183	1,330	2,290	16,100
Other bars and rods	2,990	40,900	29,700	410,000
Wire	501	13,100	5,960	135,000
Tubes, pipes, hollow profiles	3,710	45,200	37,600	415,000
Total	26,900	204,000	286,000	2,160,000
Stainless steel scrap	49,600	45,000	450,000	392,000
Grand total	76,500	249,000	736,000	2,550,000
Imports:				
Ingot	13,300	42,400	138,000	409,000
Flat-rolled (width > 600 mm)	37,600	117,000	289,000	1,000,000
Flat-rolled (width < 600 mm)	4,450	21,800	45,600	222,000
Bars and rods in irregular coils	2,760	12,200	27,500	133,000
Other bars and rods	14,700	89,000	119,000	725,000
Wire	3,970	21,100	33,100	197,000
Tubes, pipes, hollow profiles	13,900	106,000	127,000	1,060,000
Total	90,700	410,000	780,000	3,750,000
Stainless steel scrap	16,900	20,500	173,000	202,000
Grand total	108,000	430,000	953,000	3,950,000

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 incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.