

Mineral Industry Surveys

For information, contact:

Ruth F. Schulte, Chromium Commodity Specialist
National Minerals Information Center
Telephone: (703) 648-4963
Email: rschulte@usgs.gov

Benjamin N. Bryden (Data)
Telephone: (703) 648-7953
Email: bbryden@usgs.gov

Internet: <https://www.usgs.gov/centers/national-minerals-information-center/mineral-industry-surveys>

CHROMIUM IN SEPTEMBER 2023

Stainless steel production was unchanged in September 2023 compared with production in August 2023 and decreased by 9% compared with production in September 2022 (table 1). The leading import sources for ferrochromium in September 2023 into the United States were, in descending order of quantity by gross weight and chromium content, Turkey, South Africa, and Zimbabwe (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 increased by more than 11 times in September 2023 compared with imports in August 2023 but decreased by 47% compared with imports in September 2022. Imports of all grades of

chromium ferroalloys, including ferrochromium silicon, increased more than 5 times compared with imports in August 2023 and decreased by 16% compared with imports in September 2022 (table 3). Stainless steel imports in September 2023 decreased by 10% compared with imports in August 2023 and decreased by 16% compared with imports in September 2022. Stainless steel scrap imports in September 2023 decreased by 7% compared with imports in August 2023 and were 4% more than those in September 2022 (table 1).

The U.S. chromium metal (99% chromium) average price was \$5.313 per pound in September 2023, slightly more than the average price in August 2023 and 23% less than the average price in September 2022. The U.S. high-carbon ferrochromium (62%–70% chromium) average price was 213.75 cents per pound of contained chromium in September

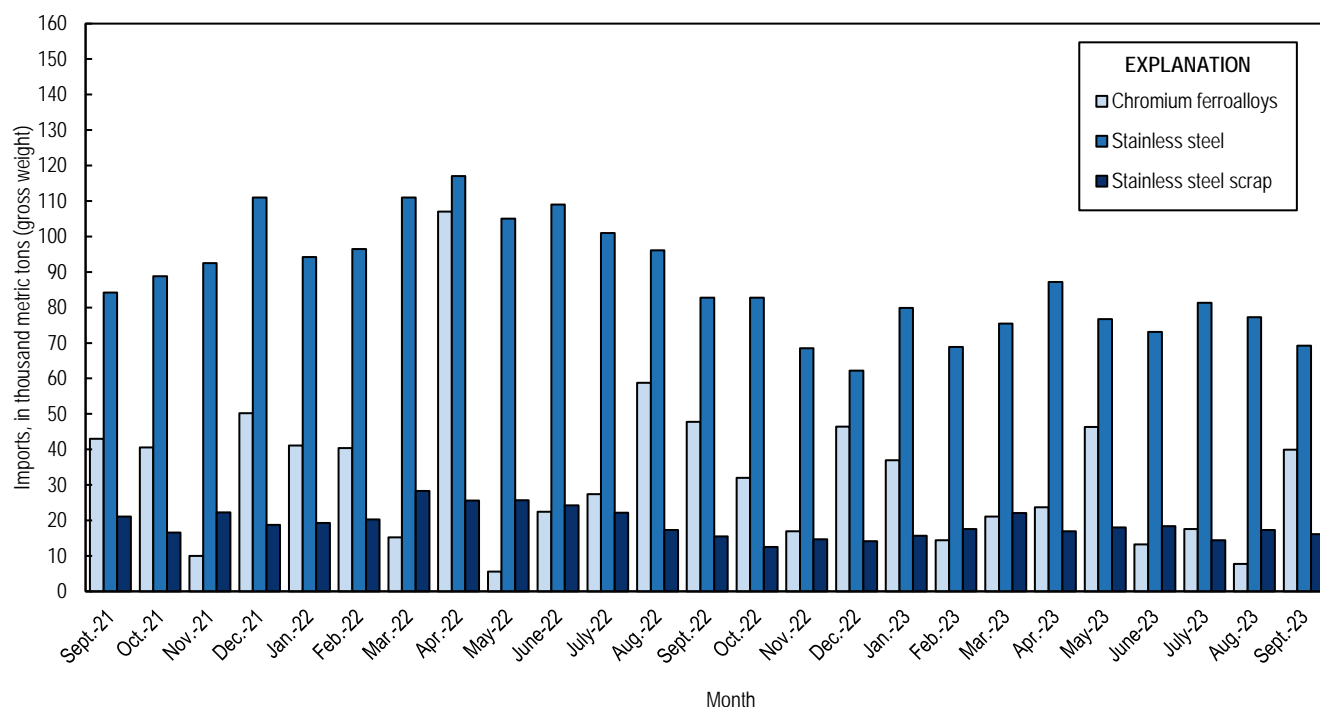


Figure 1. Chromium ferroalloys, stainless steel, and stainless steel scrap imports from September 2021 through September 2023. Source: U.S. Census Bureau.

2023, 3% less than the average price in August 2023 and 34% less than the average price in September 2022 (fig. 2) (CRU Group, 2023).

Industry News

Cogne Acciai Speciali S.p.A., a stainless steel manufacturing company based in Italy, finalized the acquisition of Special Melted Products Ltd. (United Kingdom) from Mutares SE & Co. KGaA (Germany) following anti-trust approval. The addition of Special Melted Products permitted Cogne Acciai Speciali to expand into the specialty steel and nickel-based super alloys market used in the aerospace, gas, nuclear, and oil industries (Cogne Acciai Speciali S.p.A., 2023; Olivieri, 2023).

References Cited

Cogne Acciai Speciali S.p.A., 2023, Cogne Acciai Speciali finalizes a 200 million euro share capital increase and the acquisition of Special Melted Products in UK: Aosta, Italy, Cogne Acciai Speciali S.p.A., press release.

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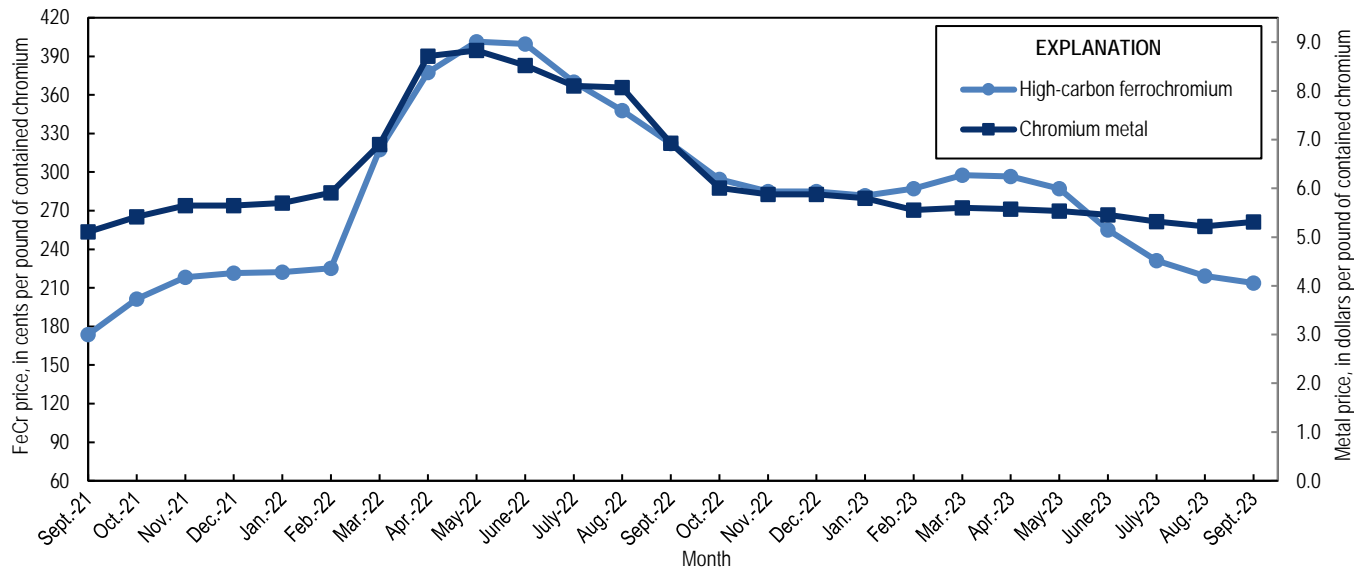


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium (FeCr) and chromium metal from September 2021 through September 2023. Source: CRU Group.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2022	2023			
	January– December	July	August	September	January– September
Production, stainless steel ²	2,020,000	149,000	146,000	146,000	1,380,000
Components of U.S. supply:					
Stainless steel scrap receipts	537,000 ^e	36,100 ^e	40,600 ^e	28,000	332,000 ^e
Stainless steel scrap consumption	806,000 ^e	53,500 ^e	60,100 ^e	40,800	492,000 ^e
Imports for consumption:					
Chromite ore	121,000	1,830	2,070	24,500	91,400
Ferrochromium:					
More than 4% carbon	399,000	14,500	3,980	38,200	194,000
More than 3% but not more than 4% carbon	36	--	20	--	39
More than 0.5% but not more than 3% carbon	2,250	200	200	54	1,890
Not more than 0.5% carbon	42,100	2,860	3,500	1,690	24,100
Ferrochromium silicon	17,100	--	--	--	1,350
Total ferroalloy imports	461,000	17,600	7,690	39,900	221,000
Chromium metal ³	14,900	1,120	909	841	9,040
Stainless steel	1,130,000	81,300	77,300	69,200	689,000
Stainless steel scrap	240,000	14,400	17,300	16,100	156,000
Exports:					
Chromite ore	2,220	230	312	218	1,800
Chromium ferroalloys:					
High-carbon ferrochromium	3,640	25	101	30	3,510
Low-carbon ferrochromium	637	63	--	--	327
Ferrochromium silicon	40	1	21	--	83
Total ferroalloy exports	4,310	89	122	30	3,920
Chromium metal	567	16	49	48	344
Stainless steel	350,000	26,100	28,900	23,900	259,000
Stainless steel scrap	403,000	39,200	47,000	47,200	401,000

^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:							
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 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
January–September ⁴	1,800	1,490	3,920	1,280	3,950	344	9,780

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	August	September	January– September ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	5,750	655	76	3,680
Chromic oxide content	1,750	131	30	985
More than 40% but less than 46% chromic oxide:				
Gross weight	17,100	1,380	1,530	14,900
Chromic oxide content	7,400	593	656	6,470
46% or more chromic oxide:				
Gross weight	98,200	34	22,900	72,900
Chromic oxide content	83,300	27	21,000	64,600
Total, all grades:				
Gross weight	121,000	2,070	24,500	91,400
Chromic oxide content	92,500	751	21,700	72,000
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5% carbon:				
Gross weight	42,100	3,500	1,690	24,100
Chromium content	29,500	2,340	809	16,300
More than 0.5% but not more than 3% carbon:				
Gross weight	2,250	200	54	1,880
Chromium content	1,520	128	33	1,250
Total, low-carbon:				
Gross weight	44,300	3,700	1,740	26,000
Chromium content	31,000	2,470	842	17,500
Medium-carbon: ⁴				
Gross weight	36	20	--	39
Chromium content	25	14	--	28
High-carbon: ⁵				
Gross weight	399,000	3,980	38,200	194,000
Chromium content	224,000	2,400	22,300	108,000
Total, all grades:				
Gross weight	444,000	7,690	39,900	220,000
Chromium content	256,000	4,890	23,200	125,000
Chromium metal:				
Unwrought powders	13,500	782	711	7,700
Waste and scrap	519	36	22	312
Other than waste and scrap and unwrought powders	927	91	109	1,030
Total, all grades	14,900	909	841	9,040

-- 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	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	50	32	\$78	1,060	707	\$2,870
Brazil	100	56	120	900	500	896
China	--	--	--	27	19	81
Finland	--	--	--	12,000	6,330	15,000
India	405	261	651	8,230	5,200	14,400
Kazakhstan	2,490	1,710	7,500	28,100	19,200	109,000
Oman	--	--	--	189	112	293
South Africa	14,400	7,090	15,700	94,900	46,500	106,000
Sweden	22	14	79	4,230	2,830	15,000
Switzerland	--	--	--	253	170	866
Turkey	14,500	9,770	37,200	15,500	10,400	40,600
Zimbabwe	6,270	3,420	6,790	28,200	15,700	36,900
Total	38,200	22,300	68,000	194,000	108,000	342,000
Medium-carbon ferrochromium, India ⁵	--	--	--	39	28	221
Low-carbon ferrochromium: ⁶						
More than 0.5% but not more than 3% carbon:						
Brazil	54	33	146	904	564	2,860
China	--	--	--	25	16	105
India	--	--	--	100	66	398
Kazakhstan	--	--	--	856	599	5,860
Total	54	33	146	1,880	1,250	9,230
Not more than 0.5% carbon:						
Brazil	200	127	614	1,010	612	2,190
China	25	16	105	260	180	1,030
Germany	375	261	1,950	8,170	5,620	45,000
India	850	243	3,270	5,970	3,740	23,900
Japan	167	113	1,340	1,540	1,050	13,100
Kazakhstan	21	15	132	5,750	4,090	36,800
Russia	--	--	--	80	59	555
Turkey	50	35	264	1,290	895	7,440
United Kingdom	(7)	(7)	2	1	1	26
Total	1,690	809	7,690	24,100	16,300	130,000
All grades:						
Albania	50	32	78	1,060	707	2,870
Brazil	354	216	880	2,820	1,680	5,940
China	25	16	105	312	216	1,210
Finland	--	--	--	12,000	6,330	15,000
Germany	375	261	1,950	8,170	5,620	45,000
India	1,260	503	3,920	14,300	9,040	38,800
Japan	167	113	1,340	1,540	1,050	13,100
Kazakhstan	2,510	1,720	7,630	34,700	23,900	152,000
Oman	--	--	--	189	112	293
Russia	--	--	--	80	59	555
South Africa	14,400	7,090	15,700	94,900	46,500	106,000
Sweden	22	14	79	4,230	2,830	15,000
Switzerland	--	--	--	253	170	866
Turkey	14,500	9,810	37,400	16,800	11,300	48,000
United Kingdom	(7)	(7)	2	1	1	26
Zimbabwe	6,270	3,420	6,790	28,200	15,700	36,900
Total	39,900	23,200	75,900	220,000	125,000	481,000

-- 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.

⁷Less than ½ unit.

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	September		January–September ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
Canada	(4)	\$6	(4)	\$6
China	352	3,390	3,860	37,700
France	(4)	3	272	4,480
Germany	--	--	100	852
India	20	217	98	1,210
Japan	--	--	(4)	5
Korea, Republic of	--	--	31	471
Russia	40	274	495	4,600
United Kingdom	298	4,520	2,840	45,500
Total	711	8,420	7,700	94,800
Waste and scrap:				
Canada	10	87	101	718
China	--	--	12	323
Germany	--	--	(4)	13
Japan	--	--	25	229
Korea, Republic of	--	--	(4)	5
Russia	--	--	1	11
Taiwan	12	47	12	47
United Kingdom	--	--	161	1,330
Total	22	134	312	2,670
Other than waste and scrap and unwrought powders:				
Brazil	41	809	41	809
Canada	--	--	(4)	221
China	(4)	52	9	835
France	56	692	796	12,000
Germany	(4)	54	30	2,130
Japan	1	17	5	137
Korea, Republic of	(4)	17	(4)	50
Malaysia	--	--	(4)	8
Russia	10	130	90	801
South Africa	--	--	21	199
Switzerland	--	--	(4)	16
Taiwan	--	--	(4)	59
United Kingdom	(4)	4	35	616
Total	109	1,770	1,030	17,800
All grades:				
Brazil	41	809	41	809
Canada	10	94	102	945
China	353	3,450	3,880	38,800
France	56	694	1,070	16,400
Germany	(4)	54	130	3,000
India	20	217	98	1,210
Japan	1	17	30	371
Korea, Republic of	(4)	17	32	525
Malaysia	--	--	(4)	8
Russia	50	404	586	5,410
South Africa	--	--	21	199
Switzerland	--	--	(4)	16
Taiwan	12	47	12	106
United Kingdom	298	4,530	3,040	47,500
Total	841	10,300	9,040	115,000

-- 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	September		January–September ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	631	\$5,840	8,430	\$61,700
Flat-rolled (width > 600 mm)	12,600	51,500	138,000	591,000
Flat-rolled (width < 600 mm)	4,410	43,400	44,400	426,000
Bars and rods in irregular coils	131	1,300	2,100	14,800
Other bars and rods	2,390	37,200	26,700	369,000
Wire	481	13,100	5,460	122,000
Tubes, pipes, hollow profiles	3,250	36,100	33,800	370,000
Total	23,900	188,000	259,000	1,950,000
Stainless steel scrap	47,200	49,700	401,000	347,000
Grand total	71,100	238,000	660,000	2,300,000
Imports:				
Ingot	15,300	39,600	125,000	367,000
Flat-rolled (width > 600 mm)	30,100	82,300	251,000	885,000
Flat-rolled (width < 600 mm)	3,820	17,100	41,100	200,000
Bars and rods in irregular coils	1,100	4,370	24,700	121,000
Other bars and rods	6,300	34,400	105,000	636,000
Wire	3,000	15,000	29,100	175,000
Tubes, pipes, hollow profiles	9,540	81,700	114,000	953,000
Total	69,200	275,000	689,000	3,340,000
Stainless steel scrap	16,100	18,000	156,000	181,000
Grand total	85,300	293,000	846,000	3,520,000

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.