Mineral Industry Surveys

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CHROMIUM IN JANUARY 2023

Stainless steel production increased by 16% in January 2023 compared with production in December 2022 and decreased by 19% compared with production in January 2022 (table 1). Government stockpile inventories for chromium metal were unchanged compared with those in December 2022 but decreased by 3% compared with those in January 2022. Government stockpile inventories for high-carbon ferrochromium decreased by 5% compared with those in December 2022 and low-carbon ferrochromium inventories were unchanged. Inventories for high-carbon ferrochromium and low-carbon ferrochromium decreased by 26% and slightly, respectively, compared with inventories in January 2022 (table 2).

In January 2023, the leading import sources for ferrochromium into the United States were, in descending order of quantity by gross weight, South Africa (92%) and Germany and India (2%, each) (table 5), whereas the leading import sources for chromium metal were China (39%), the United Kingdom (28%), France (15%) (table 6).

Imports of chromite ore, chromium ferroalloys, stainless steel, and stainless steel scrap commonly fluctuate from month to month (fig. 1, table 1). In January 2023, imports of chromite ore decreased by 75% compared with imports in December 2022 but increased by 61% compared with imports in January 2022. Imports of all grades of chromium ferroalloys, including ferrochromium silicon, decreased by 20% compared imports in December 2022 and decreased by 10% compared with imports in January 2022. Stainless steel imports in January 2023 increased by 28% compared with imports in December 2022 but decreased by 16% compared with those in January

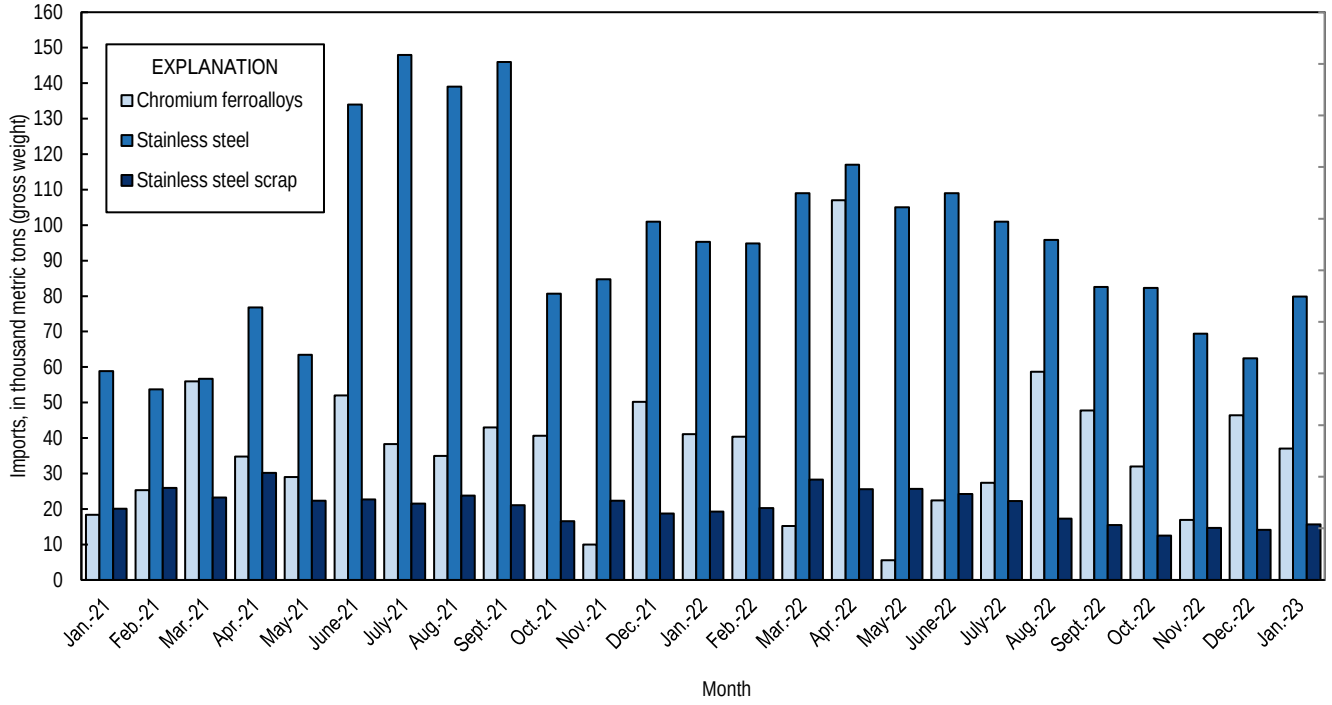

Figure 1. Chromium ferroalloys, stainless steel, and stainless steel scrap imports from January 2021 through January 2023. Source: U.S. Census Bureau.

2022. Stainless steel scrap imports in January 2023 were 11% more than imports in December 2022 and 19% less than those in January 2022 (table 1).

The U.S. chromium metal (99% chromium) average price was $5.80 per pound in January 2023, essentially unchanged from the average price in December 2022, but slightly more than the average price in January 2022. The U.S. high-carbon ferrochromium (62%–70% chromium) average price was 281.67 cents per pound of contained chromium in January 2023, essentially unchanged from the average price in December 2022, but 27% more than the average price in January 2022 (fig. 2) (CRU Group, 2023a).

Industry News

North American Stainless announced an expansion project at its plant in Ghent, KY. The expansion would cost $244 million and increase plant capacity to 200,000 metric tons of stainless steel per year, 20% more than its current capacity. Upgrades to its annealing and pickling lines, a new temper mill, and expansion of its meltshop were listed among the planned improvements (North American Stainless, 2023).

Zimasco (Pvt) Ltd. (Zimbabwe), majority owned by Sinosteel (China), restarted ferrochromium production in January at its Kwekwe smelter following a 2-month shutdown. The closure was the result of tariff disputes between Zimasco and its utility provider. During the shutdown, Zimasco completed critical maintenance work (CRU Group, 2023b).

References Cited

CRU Group, 2023a, CRU prices: CRU Group, February 1. (Accessed March 14, 2023, via http://www.crugroup.com/.)

CRU Group, 2023b, Expanding Zimasco resumes operations after power dispute: CRU Group, January 31. (Accessed March 14, 2023, via http://www.crugroup.com/.)

North American Stainless, 2023, NAS announces $244 million expansion: Ghent, KY, North American Stainless press release, January 26. (Accessed March 14, 2023, at https://www.northamericanstainless.com/2023/01/26/north-american-stainless-announces-244-million-expansion-plans-to-create-70-new-jobs-at-kentucky-facility/.)

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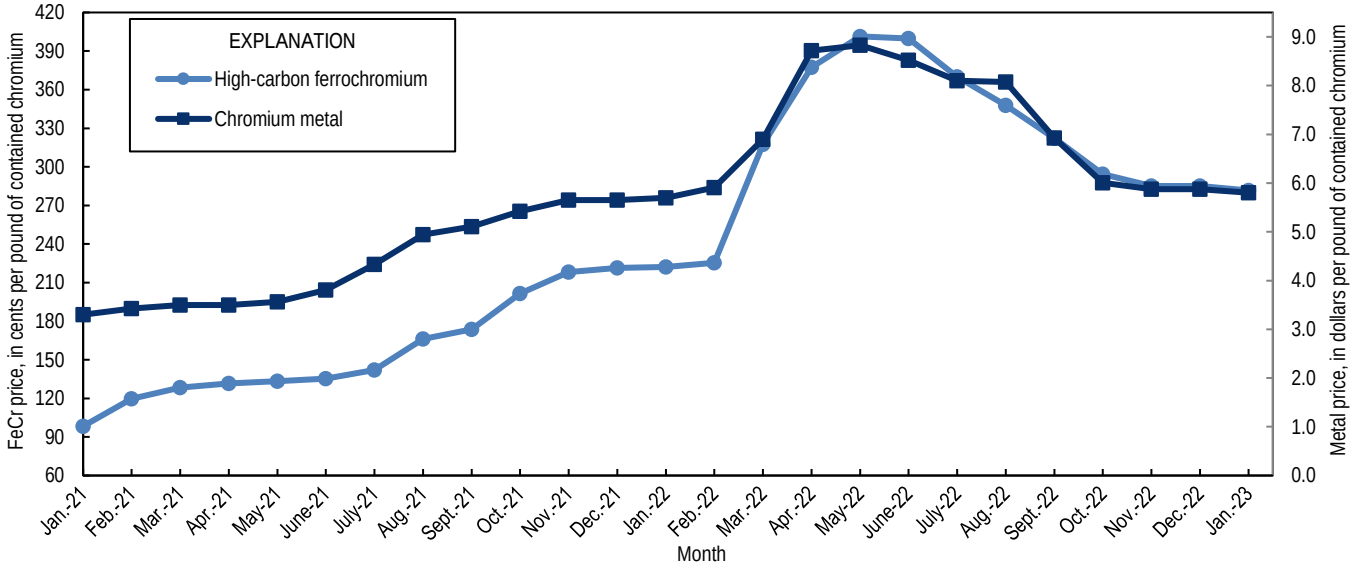

Figure 2. Average monthly prices for U.S. high-carbon ferrochromium (FeCr) and chromium metal from January 2021 through January 2023. Source: CRU Group.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2022			2023
	November	December	January–December[2]	January
Production, stainless steel[3]	135,000	140,000	2,020,000	163,000
Components of U.S. supply:				
Stainless steel scrap receipts	32,500 e	33,900 e	537,000 e	39,300 e
Stainless steel scrap consumption	48,200 e	50,100 e	806,000 e	58,200 e
Imports for consumption:				
Chromite ore	550	8,600	121,000	2,120
Ferrochromium:				
More than 4% carbon	13,800	42,300	399,000	35,300
More than 3% but not more than 4% carbon	--	--	36	--
More than 0.5% but not more than 3% carbon	217	81	2,250	25
Not more than 0.5% carbon	2,280	3,600	41,700	1,730
Ferrochromium silicon	595	498	17,100	--
Total ferroalloy imports	16,900	46,400	460,000	37,000
Chromium metal[4]	1,030	1,170	15,000	1,160
Stainless steel	69,400	62,500	1,130,000	79,900
Stainless steel scrap	14,700	14,100	240,000	15,700
Exports:				
Chromite ore	43	180	2,190	124
Chromium ferroalloys:				
High-carbon ferrochromium	36	893	3,640	928
Low-carbon ferrochromium	--	3	637	73
Ferrochromium silicon	--	--	40	19
Total ferroalloy exports	36	896	4,310	1,020
Chromium metal	22	83	567	43
Stainless steel	29,700	26,800	350,000	32,000
Stainless steel scrap	28,700	28,800	387,000	47,800
Government stockpile:				
Chromium ferroalloys	43,700	43,700	43,700	42,800
Chromium metal	3,450	3,450	3,450	3,450

[e]Estimated. -- Zero.

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

[2]May include revised data that are not broken out by specific month(s).

[3]Data 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.

[4]Includes waste and scrap and other.

TABLE 2
U.S. GOVERNMENT STOCKPILE INVENTORY OF
CHROMIUM MATERIALS[1]

(Metric tons)

	Chromium ferroalloys		
	High-carbon ferro-chromium	Low-carbon ferro-chromium	Chromium metal
2022:			
January	22,000	27,000	3,560
February	22,000	27,000	3,560
March	20,700	26,800	3,520
April	19,600	26,800	3,520
May	19,200	26,800	3,520
June	18,300	26,800	3,480
July	17,400	26,800	3,480
August	17,200	26,800	3,470
September	17,200	26,600	3,470
October	17,200	26,600	3,470
November	17,200	26,600	3,450
December	17,200	26,600	3,450
2023, January	16,300	26,600	3,450

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

Source: Defense Logistics Agency, DLA Strategic Materials.

TABLE 3
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

	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:							
January	90	$88	321	124	$414	63	$1,030
February	170	144	252	52	259	39	1,080
March	262	206	157	44	172	66	1,360
April	255	227	245	129	282	45	867
May	96	77	387	208	390	68	1,410
June	161	110	712	425	783	34	899
July	212	97	316	190	344	25	803
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	43	36	36	22	32	22	730
December	180	151	896	432	841	83	1,530
January–December[4]	2,190	1,620	4,310	2,170	4,420	567	12,800
2023, January	124	110	1,020	398	1,130	43	1,120

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes low- and high-carbon ferrochromium and ferrochromium silicon.
[3]Includes chromium metal, waste and scrap, and unwrought powders.
[4]May include revised data that are not broken out by specific month(s).

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2022		2023
	December	January–December[2]	January
Chromite ore:			
Not more than 40% chromic oxide:			
Gross weight	1,900	5,750	181
Chromic oxide content	484	1,750	70
More than 40% but less than 46% chromic oxide:			
Gross weight	2,660	17,100	1,940
Chromic oxide content	1,140	7,400	869
46% or more chromic oxide:			
Gross weight	4,040	98,200	--
Chromic oxide content	1,890	83,300	--
Total, all grades:			
Gross weight	8,600	121,000	2,120
Chromic oxide content	3,510	92,500	939
Ferrochromium:			
Low-carbon:[3]			
Not more than 0.5% carbon:			
Gross weight	3,600	41,700	1,730
Chromium content	2,540	29,300	1,200
More than 0.5% but not more than 3% carbon:			
Gross weight	81	2,250	25
Chromium content	57	1,520	16
Total, low-carbon:			
Gross weight	3,680	44,000	1,760
Chromium content	2,600	30,800	1,210
Medium-carbon:[4]			
Gross weight	--	36	--
Chromium content	--	25	--
High-carbon:[5]			
Gross weight	42,300	399,000	35,300
Chromium content	22,300	224,000	17,400
Total, all grades:			
Gross weight	45,900	443,000	37,000
Chromium content	24,900	255,000	18,600
Chromium metal:			
Unwrought powders	1,100	13,500	928
Waste and scrap	57	519	22
Other than waste and scrap and unwrought powders	16	931	211
Total, all grades	1,170	15,000	1,160

-- Zero.

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

[2]May include revised data that are not broken out by specific month(s).

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 3% carbon but not more than 4% carbon.

[5]Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2023, BY GRADE AND COUNTRY OR LOCALITY[1]

Grade and country or locality	January		
	Quantity (metric tons)	Chromium content (metric tons)	Value[2] (thousands)
High-carbon ferrochromium:[3]			
Albania	228	153	$605
China	20	14	56
India	770	491	1,530
Kazakhstan	45	30	162
Oman	27	16	65
South Africa	33,900	16,500	35,700
Sweden	244	163	834
Total	35,300	17,400	39,000
Low-carbon ferrochromium:[4]			
More than 0.5% but not more than 3% carbon, China	25	16	105
Not more than 0.5% carbon:			
Brazil	300	187	1,070
China	100	71	401
Germany	835	578	4,660
India	150	119	548
Japan	244	172	1,970
Kazakhstan	2	1	14
Turkey	100	69	609
Total	1,730	1,200	9,280
All grades:			
Albania	228	153	605
Brazil	300	187	1,070
China	145	101	562
Germany	835	578	4,660
India	920	610	2,080
Japan	244	172	1,970
Kazakhstan	46	32	175
Oman	27	16	65
South Africa	33,900	16,500	35,700
Sweden	244	163	834
Turkey	100	69	609
Total	37,000	18,600	48,400

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]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.
[3]Ferrochromium containing more than 4% carbon.
[4]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2023,
BY GRADE AND BY COUNTRY OR LOCALITY[1]

Grade and country or locality	January	
	Quantity (metric tons)	Value[2] (thousands)
Unwrought powders:		
China	447	$4,940
France	19	357
Germany	23	163
Russia	120	1,170
United Kingdom	319	5,420
Total	928	12,000
Waste and scrap:		
Canada	13	71
Japan	9	78
Total:	22	149
Other than waste and scrap and unwrought powders:		
Canada	(3)	221
China	2	126
France	154	3,110
Germany	1	88
Japan	2	38
Russia	20	179
South Africa	21	199
Taiwan	(3)	12
United Kingdom	10	199
Total	211	4,170
All grades:		
Canada	13	292
China	449	5,070
France	173	3,470
Germany	24	251
Japan	11	115
Russia	140	1,340
South Africa	21	199
Taiwan	(3)	12
United Kingdom	329	5,620
Total	1,160	16,400

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]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.
[3]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 7
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2023[1]

Stainless steel product	January	
	Gross weight (metric tons)	Value[2] (thousands)
Exports:		
Ingot	1,060	$6,860
Flat-rolled (width > 600 mm)	17,700	75,500
Flat-rolled (width < 600 mm)	5,330	50,600
Bars and rods in irregular coils	550	2,950
Other bars and rods	2,850	40,800
Wire	644	13,000
Tubes, pipes, hollow profiles	3,880	39,600
Total	32,000	229,000
Stainless steel scrap	47,800	40,000
Grand total	79,800	269,000
Imports:		
Ingot	12,200	36,100
Flat-rolled (width > 600 mm)	24,100	98,100
Flat-rolled (width < 600 mm)	5,800	29,400
Bars and rods in irregular coils	3,570	17,300
Other bars and rods	16,000	92,400
Wire	4,240	28,400
Tubes, pipes, hollow profiles	14,100	113,000
Total	79,900	414,000
Stainless steel scrap	15,700	17,600
Grand total	95,600	432,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]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 charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.