

Mineral Industry Surveys

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CHROMIUM IN MARCH 2022

Government stockpile inventories for chromium metal were essentially unchanged compared with those in February and decreased by 5% compared with March 2021. Government stockpile inventories for high-carbon ferrochromium decreased by 6% and low-carbon ferrochromium was essentially unchanged compared with those in February. Inventories for high-carbon ferrochromium and low-carbon ferrochromium decreased by 28% and by 3%, respectively, compared with inventories in March 2021 (table 3).

In March 2022, the leading import sources for ferrochromium into the United States were, in descending order of quantity by gross weight, Russia, Finland, and Germany (table 6), whereas the leading import sources for chromium metal were the United Kingdom, China, and France (table 7).

Imports of chromite ore, chromium ferroalloys, stainless steel, and stainless steel scrap commonly fluctuate from month to month (fig. 1, table 1). In March 2022, imports of chromite ore decreased by 82% compared with imports in February and decreased by 84% compared with imports in March 2021. Imports of all grades of chromium ferroalloys, including ferrochromium silicon, decreased by 62% compared with imports of chromium ferroalloys in February and decreased by 73% compared with imports in March 2021. Stainless steel imports in March 2022 increased by 15% compared with imports in February and were 92% more those in March 2021. Stainless steel scrap imports increased by 40% in March 2022 compared with imports in February and increased by 22% compared with those in March 2021 (table 1).

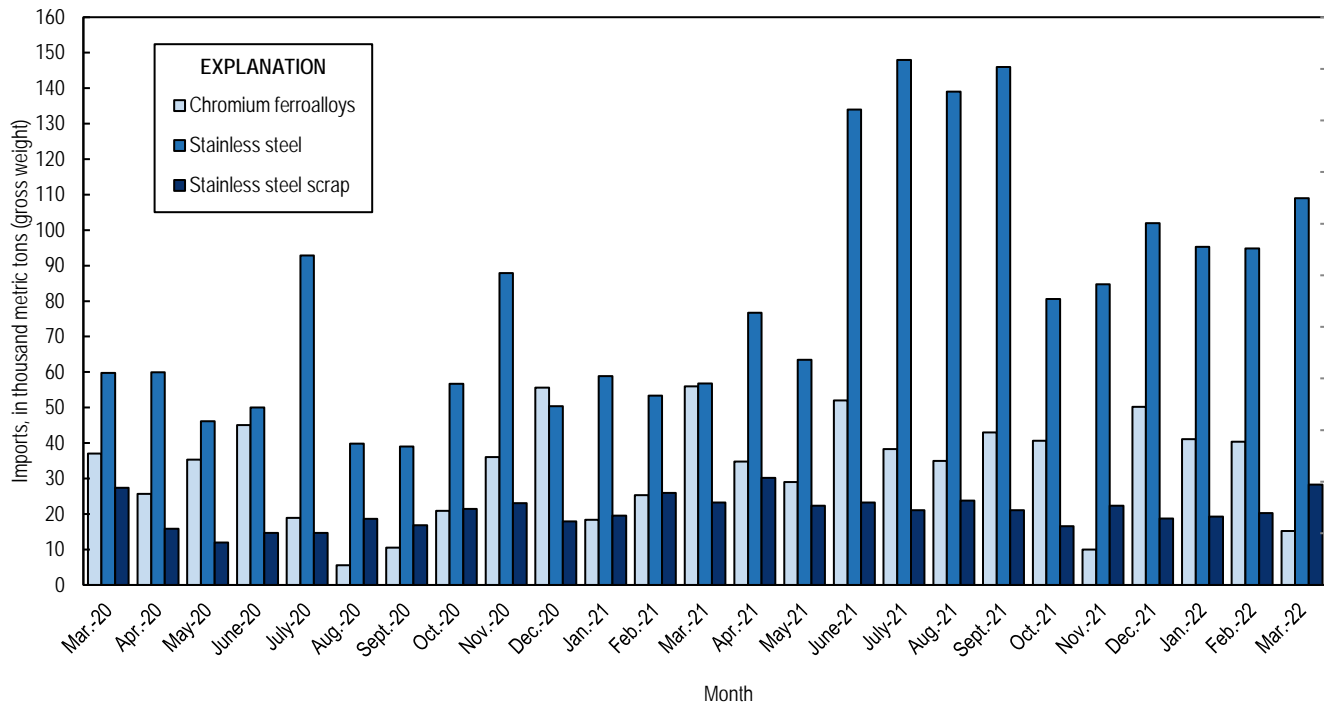


Figure 1. Chromium ferroalloys, stainless steel, and stainless steel scrap imports from March 2020 through March 2022. Source: U.S. Census Bureau.

The U.S. chromium metal (99% chromium) average price was \$6.90 per pound in March 2022, a 17% increase from the average price in February, and 97% more than the average price in March 2021. The U.S. high-carbon ferrochromium (62%–70% chromium) average price was 317.50 cents per pound of contained chromium in March 2022, a 41% increase from the average price in February 2022, and more than double the average price in March 2021 (fig. 2) (CRU Group, 2021).

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Reference Cited

CRU Group, 2022, CRU prices: CRU Group, April 1. (Accessed April 4, 2022, via <http://www.crugroup.com/>.)

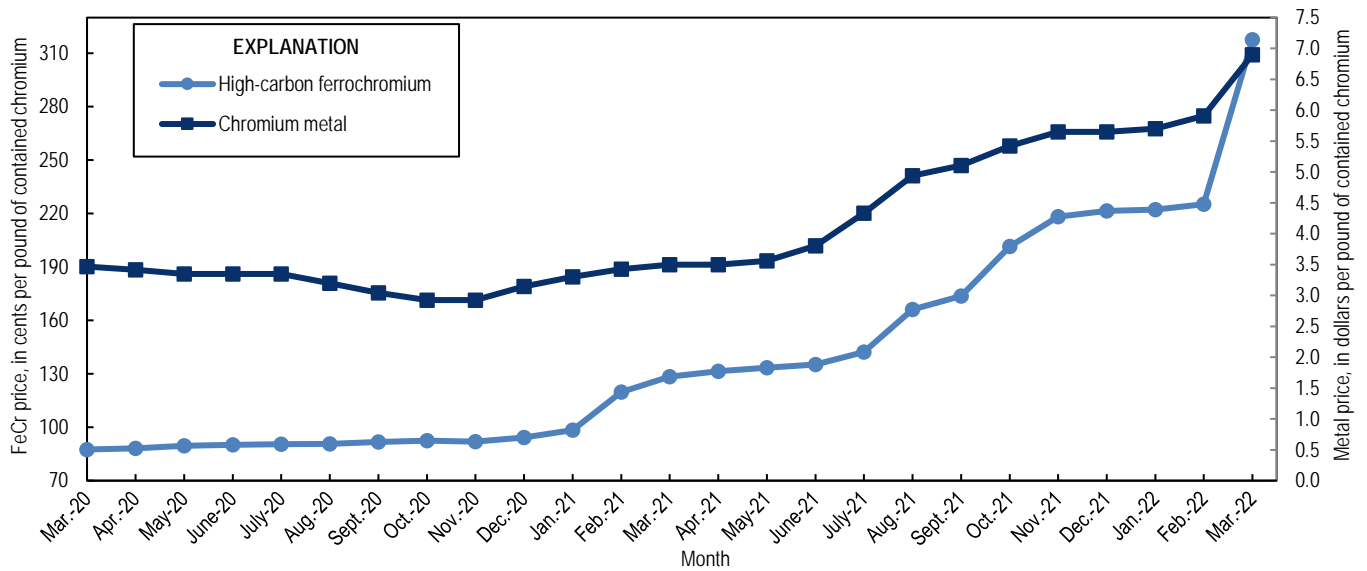


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium (FeCr) and chromium metal from March 2020 through March 2022. Source: CRU Group.

NOTICE

The U.S. Geological Survey plans to discontinue reporting industry consumption of ferroalloys and chromium metal in tables 1 and 2 of this Mineral Industry Surveys report. The last published report that will include tables 1 and 2 will be Chromium in June 2022. Information in these tables will still be available on an annual basis in the chromium chapters of the Mineral Commodity Summaries and the Minerals Yearbook, Volume I, Metals and Minerals. Prior to the proposed discontinuation date, please direct any comments or concerns to Elizabeth Sangine, Chief, Mineral Commodities Section, escottsangine@usgs.gov.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2021	2022			
	January– December	January	February	March	January– March
Production, stainless steel ²	2,370,000	202,000	169,000	197,000	569,000
Components of U.S. supply:					
Stainless steel scrap receipts	672,000	54,700	45,900 ^{r, e}	53,500 ^e	154,000 ^e
Stainless steel scrap consumption	1,010,000	82,700	69,400 ^{r, e}	80,900 ^e	233,000 ^e
Imports for consumption:					
Chromite ore	146,000	1,320	4,780	852	6,960
Ferrochromium:					
More than 4% carbon	347,000	31,700	38,200	7,350	77,200
More than 3% but not more than 4% carbon	6,700	--	--	--	--
More than 0.5% but not more than 3% carbon	1,810	--	27	252	279
Not more than 0.5% carbon	57,700	5,280	2,130	6,140	13,600
Ferrochromium silicon	19,800	4,130	--	1,500	5,630
Total ferroalloy imports	433,000	41,100	40,400	15,200	96,700
Chromium metal ³	12,100	932	1,210	1,260	3,410
Stainless steel	1,140,000	95,300	94,800	109,000	299,000
Stainless steel scrap	268,000	19,300	20,300	28,300	67,900
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	314,000	26,000 ^e	W	W	NA
Exports:					
Chromite ore	2,110	90	170	262	522
Chromium ferroalloys:					
High-carbon ferrochromium	1,650	110	214	96	420
Low-carbon ferrochromium	1,580	191	18	61	271
Ferrochromium silicon	154	20	20	--	40
Total ferroalloy exports	3,390	321	252	157	730
Chromium metal	456	63	39	66	168
Stainless steel	355,000	25,000	27,100	31,600	83,800
Stainless steel scrap	304,000	15,100	18,200	23,200	56,500
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	7,730	7,700 ^e	W	W	W
Government stockpile:					
Chromium ferroalloys	49,900	49,000	49,000	47,400	47,400
Chromium metal	3,560	3,560	3,560	3,520	3,520

^eEstimated. ^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data. -- 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. CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS

(Metric tons, gross weight unless otherwise noted)

	2022	
	February	March
Consumption by end use:		
Steel:		
Carbon steel	W	W
High-strength low-alloy steel	W	W
Stainless and heat-resisting steel	W	W
Unspecified steel ¹	W	W
Superalloys	W	W
Other alloys and uses ²	W	W
Total	W	W
Total, chromium content	W	W
Consumption by material:		
Low-carbon ferrochromium	W	W
High-carbon ferrochromium	W	W
Ferrochromium silicon	W	W
Chromium metal	W	W
Chromium-aluminum alloy	W	W
Other chromium materials ³	W	W
Total	W	W
Total, chromium content	W	W
Consumer stocks:		
Low-carbon ferrochromium	W	W
High-carbon ferrochromium	W	W
Ferrochromium silicon	W	W
Chromium metal	W	W
Chromium-aluminum alloy	W	W
Other chromium materials ³	W	W
Total	W	W
Total, chromium content	W	W

W Withheld to avoid disclosing company proprietary data.

¹Includes electrical, full alloy, tool, and unspecified steel end uses.

²Includes cast irons, welding and alloy hard-facing rods and materials, wear- and corrosion-resistant alloys, and aluminum, copper, magnetic, nickel, and other alloys.

³Includes chromite ore as foundry sand.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF
CHROMIUM MATERIALS¹

(metric tons)

	Chromium ferroalloys		Chromium metal
	High-carbon ferro- chromium	Low-carbon ferro- chromium	
2021:			
March	28,800	27,500	3,690
April	27,700	27,500	3,690
May	27,700	27,500	3,690
June	27,500	27,500	3,690
July	27,300	27,500	3,690
August	26,200	27,500	3,620
September	25,600	27,400	3,620
October	25,600	27,400	3,620
November	24,700	27,200	3,560
December	22,900	27,000	3,560
2022:			
January	22,000	27,000	3,560
February	22,000	27,000	3,560
March	20,700	26,800	3,520

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

Source: Defense Logistics Agency, DLA Strategic Materials.

TABLE 4
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)
2021:							
March	208	\$147	209	100	\$401	47	\$783
April	157	128	28	17	54	25	659
May	115	106	94	59	155	66	1,200
June	155	86	82	43	142	86	1,200
July	156	104	274	147	529	15	406
August	116	81	435	212	600	47	1,000
September	302	191	354	167	484	25	773
October	142	95	752	403	2,260	21	588
November	219	135	465	254	947	21	414
December	50	37	558	179	676	29	924
January–December ⁴	2,110	1,430	3,390	1,650	6,460	456	9,660
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
January–March	522	438	730	220	844	168	3,470

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 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND
CHROMIUM METAL¹

(Metric tons)

	2021	2022		
	January– December	February	March	January– March ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	15,800	293	160	1,280
Chromic oxide content	3,490	115	61	388
More than 40% but less than 46% chromic oxide:				
Gross weight	21,400	705	692	1,890
Chromic oxide content	9,270	307	303	824
46% or more chromic oxide:				
Gross weight	108,000	3,780	--	3,780
Chromic oxide content	94,300	1,820	--	1,820
Total, all grades:				
Gross weight	146,000	4,780	852	6,960
Chromic oxide content	107,000	2,250	364	3,040
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5% carbon:				
Gross weight	57,700	2,130	6,140	13,600
Chromium content	40,400	1,560	4,140	9,340
More than 0.5% but not more than 3% carbon:				
Gross weight	1,810	27	252	279
Chromium content	1,250	17	174	191
Total, low-carbon:				
Gross weight	59,500	2,160	6,400	13,800
Chromium content	41,600	1,580	4,320	9,530
Medium-carbon: ⁴				
Gross weight	6,700	--	--	--
Chromium content	3,420	--	--	--
High-carbon: ⁵				
Gross weight	347,000	38,200	7,350	77,200
Chromium content	191,000	20,700	4,010	45,100
Total, all grades:				
Gross weight	413,000	40,400	13,700	91,000
Chromium content	236,000	22,300	8,330	54,600
Chromium metal:				
Unwrought powders	10,200	1,090	1,150	3,020
Waste and scrap	112	99	19	118
Other than waste and scrap and unwrought powders	1,730	18	93	271
Total, all grades	12,100	1,210	1,260	3,410

-- 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 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2022, BY GRADE AND COUNTRY OR LOCALITY¹

Grade and country or locality	March			January–March 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	360	241	\$915	1,410	1,000	\$3,510
Finland	1,500	794	1,910	3,000	1,580	3,790
Kazakhstan	504	347	900	17,500	12,000	55,200
Russia	4,370	2,320	6,320	17,900	11,200	36,200
South Africa	613	305	479	27,900	13,700	36,600
Sweden	--	--	--	1,700	1,150	4,220
Turkey	--	--	--	1,220	796	2,520
Zimbabwe	--	--	--	6,590	3,630	7,700
Total	7,350	4,010	10,500	77,200	45,100	150,000
Low-carbon ferrochromium:⁵						
More than 0.5% but not more than 3% carbon						
Brazil	--	--	--	27	17	93
Kazakhstan	252	174	374	252	174	374
Total	252	174	374	279	191	467
Not more than 0.5% carbon:						
Brazil	50	31	205	189	121	680
China	--	--	--	9	6	34
Germany	846	626	2,680	1,810	1,330	5,890
Japan	279	196	1,260	519	364	2,230
Kazakhstan	--	--	--	2,540	1,830	14,300
Russia	4,970	3,290	24,700	8,470	5,670	42,300
Sweden	--	--	--	14	10	59
Total	6,140	4,140	28,800	13,600	9,340	65,500
All grades:						
Albania	360	241	915	1,410	1,000	3,510
Brazil	50	31	205	216	138	773
China	--	--	--	9	6	34
Finland	1,500	794	1,910	3,000	1,580	3,790
Germany	846	626	2,680	1,810	1,330	5,890
Japan	279	196	1,260	519	364	2,230
Kazakhstan	757	521	1,270	20,300	14,000	69,900
Russia	9,340	5,610	31,000	26,300	16,900	78,500
South Africa	613	305	479	27,900	13,700	36,600
Sweden	--	--	--	1,710	1,160	4,280
Turkey	--	--	--	1,220	796	2,520
Zimbabwe	--	--	--	6,590	3,630	7,700
Total	13,700	8,330	39,700	91,000	54,600	216,000

-- 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 not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2022,
BY GRADE AND BY COUNTRY OR LOCALITY¹

Grade and country or locality	March		January–March ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
China	349	\$3,470	599	\$5,860
France	264	3,280	508	6,370
Germany	25	694	95	1,400
India	2	239	21	496
Russia	55	645	947	9,760
Spain	23	111	23	111
United Kingdom	433	6,790	824	12,900
Total	1,150	15,200	3,020	36,900
Waste and scrap:				
China	--	--	20	190
Japan	(4)	4	(4)	4
United Kingdom	19	187	98	962
Total	19	191	118	1,160
Other than waste and scrap and unwrought powders:				
Canada	(4)	3	(4)	3
China	(4)	55	2	173
France	(4)	9	(4)	9
Germany	4	117	6	257
Italy	(4)	27	(4)	30
Japan	1	48	3	132
Russia	80	869	229	2,410
South Africa	7	69	7	69
United Kingdom	--	--	25	332
Total	93	1,200	271	3,420
All grades:				
Canada	(4)	3	(4)	3
China	349	3,520	621	6,220
France	264	3,290	508	6,380
Germany	29	811	100	1,660
India	2	239	21	496
Italy	(4)	27	(4)	30
Japan	1	53	3	136
Russia	135	1,510	1,180	12,200
South Africa	7	69	7	69
Spain	23	111	23	111
United Kingdom	452	6,970	947	14,200
Total	1,260	16,600	3,410	41,400

-- 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 8
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2022¹

Stainless steel product	March		January–March ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	1,590	\$9,770	3,800	\$24,400
Flat-rolled (width > 600 mm)	18,100	80,900	48,200	211,000
Flat-rolled (width < 600 mm)	5,280	37,800	14,100	96,100
Bars and rods in irregular coils	142	831	458	2,670
Other bars and rods	2,560	31,800	6,510	81,000
Wire	740	17,100	1,930	38,400
Tubes, pipes, hollow profiles	3,230	33,800	8,790	90,600
Total	31,600	212,000	83,800	544,000
Stainless steel scrap	23,200	31,700	56,500	87,000
Grand total	54,800	244,000	140,000	631,000
Imports:				
Ingot	14,900	41,600	43,100	136,000
Flat-rolled (width > 600 mm)	50,400	173,000	139,000	466,000
Flat-rolled (width < 600 mm)	6,170	29,000	15,800	69,800
Bars and rods in irregular coils	4,590	20,900	12,500	52,800
Other bars and rods	12,700	64,100	33,600	166,000
Wire	5,370	27,600	14,700	76,400
Tubes, pipes, hollow profiles	15,200	106,000	41,200	276,000
Total	109,000	462,000	299,000	1,240,000
Stainless steel scrap	28,300	51,600	67,900	118,000
Grand total	138,000	514,000	367,000	1,360,000

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.