

Mineral Industry Surveys

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CHROMIUM IN FEBRUARY 2022

Government stockpile inventories for chromium metal were unchanged compared with those in January and decreased by 3% compared with February 2021. Government stockpile inventories for high-carbon ferrochromium and low-carbon ferrochromium each were unchanged, compared with those in January. Inventories for high-carbon ferrochromium decreased by 32% and increased slightly for low-carbon ferrochromium compared with inventories in February 2021 (table 3).

Imports of chromite ore, chromium ferroalloys, stainless steel, and stainless steel scrap commonly fluctuate from month to month (fig. 1, table 1). In February 2022, imports of all grades of chromite ore more than tripled compared with imports in January and more than doubled compared with imports in February 2021. Imports of all grades of chromium ferroalloys, including ferrochromium silicon, decreased

slightly compared with imports of chromium ferroalloys in January and increased by 59% compared with imports in February 2021. Stainless steel imports in February 2022 were unchanged compared with imports in January and were 78% more those in February 2021. Stainless steel scrap imports increased by 5% in February 2022 compared with imports in January and decreased by 22% compared with those in February 2021 (table 1).

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

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

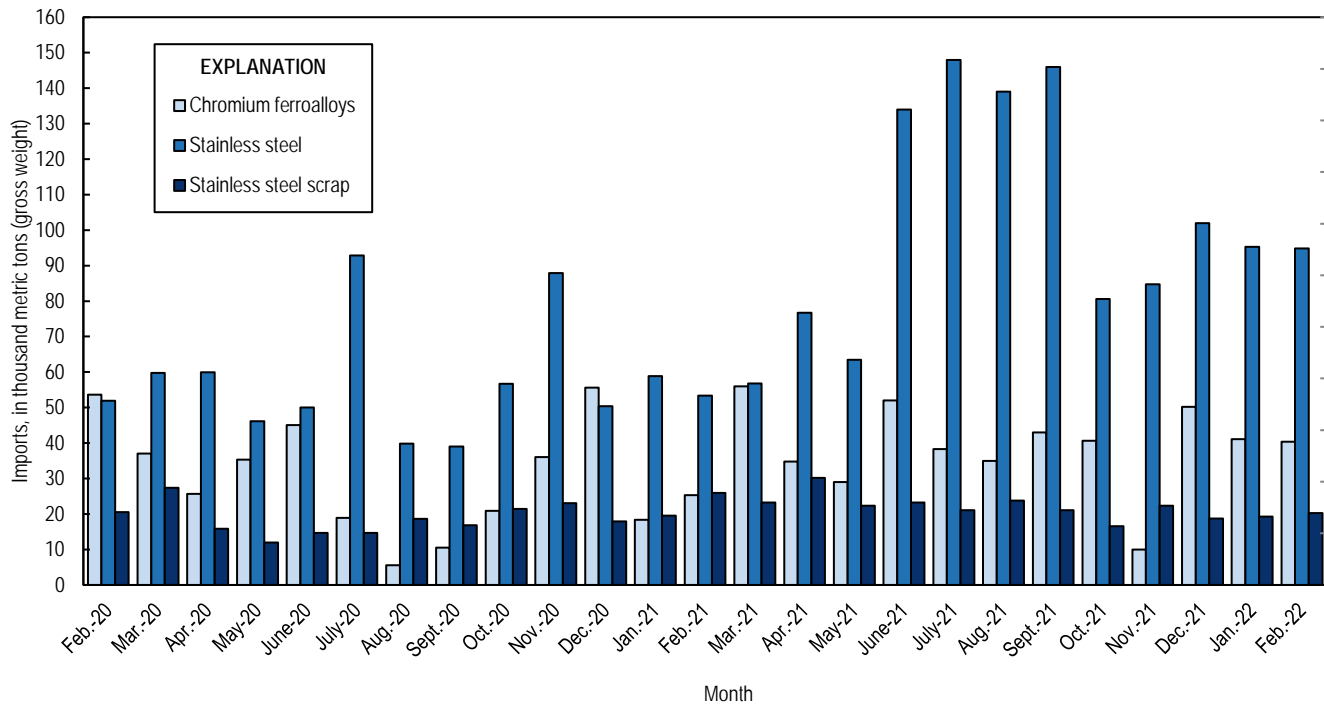


Figure 1. Chromium ferroalloys, stainless steel, and stainless steel scrap imports from February 2020 through February 2022. Source: U.S. Census Bureau.

was \$5.91 per pound in February 2022, a 4% increase from the average price in January, and 72% more than the average price in February 2021. The U.S. high-carbon ferrochromium (62%–70% chromium) average price was 225.31 cents per pound of contained chromium in February 2021, a slight increase from the average price in January 2022, and 88% more than the average price in February 2021 (fig. 2) (CRU Group, 2021).

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Reference Cited

CRU Group, 2022, CRU prices: CRU Group, March 1. (Accessed April 21, 2022, via <http://www.crugroup.com/>.)

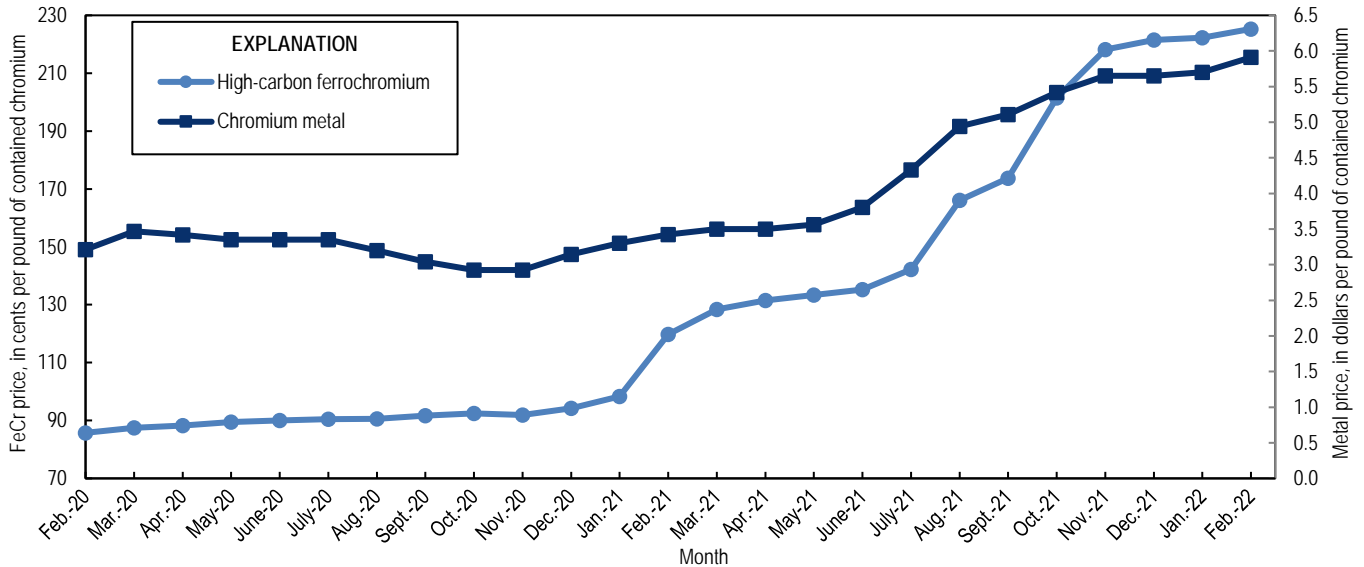


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium (FeCr) and chromium metal from February 2020 through February 2022. Source: CRU Group.

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)

	2021		2022		
	December	January– December ²	January	February	January– February ²
Production, stainless steel ³	169,000	2,370,000	202,000	169,000	371,000
Components of U.S. supply:					
Stainless steel scrap receipts	56,000 ^r	672,000 ^r	54,700	56,100	111,000
Stainless steel scrap consumption	83,900 ^r	1,010,000 ^r	82,700	83,900	167,000
Imports for consumption:					
Chromite ore	3,980	146,000	1,320	4,780	6,100
Ferrochromium:					
More than 4% carbon	32,600	347,000	31,700	38,200	69,900
More than 3% but not more than 4% carbon	--	6,700	--	--	--
More than 0.5% but not more than 3% carbon	--	1,810	--	27	27
Not more than 0.5% carbon	17,600	57,700	5,280	2,130	7,410
Ferrochromium silicon	--	19,800	4,130	--	4,130
Total ferroalloy imports	50,200	433,000	41,100	40,400	81,400
Chromium metal ⁴	931	12,100	932	1,210	2,140
Stainless steel	102,000	1,140,000	95,300	94,800	190,000
Stainless steel scrap	18,700	268,000	19,300	20,300	39,600
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	26,100	314,000	26,000 ^e	W	NA
Exports:					
Chromite ore	50	2,110	90	170	260
Chromium ferroalloys:					
High-carbon ferrochromium	199	1,650	110	214	323
Low-carbon ferrochromium	357	1,580	191	18	210
Ferrochromium silicon	2	154	20	20	40
Total ferroalloy exports	558	3,390	321	252	573
Chromium metal	29	456	63	39	102
Stainless steel	26,100	355,000	25,000	27,100	52,100
Stainless steel scrap	22,000	304,000	15,100	18,200	33,300
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	7,730	7,730	7,700 ^e	W	NA
Government stockpile:					
Chromium ferroalloys	49,900	49,900	49,000	49,000	49,000
Chromium metal	3,560	3,560	3,560	3,560	3,560

^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.

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

³Data 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.

⁴Includes waste and scrap and other.

TABLE 2
U.S. CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS¹

(Metric tons, gross weight unless otherwise noted)

	2022	
	January ^e	February
Consumption by end use:		
Steel:		
Carbon steel	(2)	W
High-strength low-alloy steel	140	W
Stainless and heat-resisting steel	22,000	W
Unspecified steel ³	3,400	W
Superalloys	200	W
Other alloys and uses ⁴	(2)	W
Total	26,000	W
Total, chromium content	15,000	W
Consumption by material:		
Low-carbon ferrochromium	1,700	W
High-carbon ferrochromium	2,300	W
Ferrochromium silicon	(2)	W
Chromium metal	150	W
Chromium-aluminum alloy	(2)	W
Other chromium materials ⁵	140	W
Total	26,000	W
Total, chromium content	15,000	W
Consumer stocks:		
Low-carbon ferrochromium	1,100	W
High-carbon ferrochromium	2,200	W
Ferrochromium silicon	(2)	W
Chromium metal	20	W
Chromium-aluminum alloy	(2)	W
Other chromium materials ⁵	4,100	W
Total	7,700	W
Total, chromium content	4,700	W

^eEstimated. W Withheld to avoid disclosing company proprietary data.

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

²Withheld to avoid disclosing company proprietary data; included in totals.

³Includes electrical, full alloy, tool, and unspecified steel end uses.

⁴Includes cast irons, welding and alloy hard-facing rods and materials, wear- and corrosion-resistant alloys, and aluminum, copper, magnetic, nickel, and other alloys.

⁵Includes 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:			
February	32,400	26,500	3,690
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

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:							
February	420	\$264	111	58	\$169	30	\$650
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
January–February	260	232	573	176	672	102	2,110

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 ²	January	February	January– February ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	15,800	830	293	1,120
Chromic oxide content	3,490	212	115	327
More than 40% but less than 46% chromic oxide:				
Gross weight	21,400	493	705	1,200
Chromic oxide content	9,270	214	307	521
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	1,320	4,780	6,100
Chromic oxide content	107,000	426	2,250	2,670
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5% carbon:				
Gross weight	57,700	5,280	2,130	7,410
Chromium content	40,400	3,630	1,560	5,190
More than 0.5% but not more than 3% carbon:				
Gross weight	1,810	--	27	27
Chromium content	1,250	--	17	17
Total, low-carbon:				
Gross weight	59,500	5,280	2,160	7,440
Chromium content	41,600	3,630	1,580	5,210
Medium-carbon: ⁴				
Gross weight	6,700	--	--	--
Chromium content	3,420	--	--	--
High-carbon: ⁵				
Gross weight	347,000	31,700	38,200	69,900
Chromium content	191,000	20,300	20,700	41,100
Total, all grades:				
Gross weight	413,000	36,900	40,400	77,300
Chromium content	236,000	24,000	22,300	46,300
Chromium metal:				
Unwrought powders	10,200	771	1,090	1,870
Waste and scrap	112	--	99	99
Other than waste and scrap and unwrought powders	1,730	161	18	178
Total, all grades	12,100	932	1,210	2,140

-- 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	February			January–February 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	862	624	\$2,170	1,050	759	\$2,590
Finland	1,500	789	1,890	1,500	789	1,890
Kazakhstan	7,830	5,370	25,000	17,000	11,600	54,300
Russia	377	260	938	13,500	8,870	29,900
South Africa	27,100	13,300	36,000	27,300	13,400	36,100
Sweden	245	168	677	1,700	1,150	4,220
Turkey	244	166	516	1,220	796	2,520
Zimbabwe	--	--	--	6,590	3,630	7,700
Total	38,200	20,700	67,200	69,900	41,100	139,000
Low-carbon ferrochromium:⁵						
More than 0.5% but not more than 3% carbon, Brazil	27	17	93	27	17	93
Not more than 0.5% carbon:						
Brazil	19	15	85	139	90	475
China	9	6	34	9	6	34
Germany	448	345	1,430	968	703	3,220
Japan	--	--	--	239	168	970
Kazakhstan	1,570	1,130	8,880	2,540	1,830	14,300
Russia	78	52	330	3,500	2,380	17,600
Sweden	14	10	59	14	10	59
Total	2,130	1,560	10,800	7,410	5,190	36,600
All grades:						
Albania	862	624	2,170	1,050	759	2,590
Brazil	46	32	178	166	107	568
China	9	6	34	9	6	34
Finland	1,500	789	1,890	1,500	789	1,890
Germany	448	345	1,430	968	703	3,220
Japan	--	--	--	239	168	970
Kazakhstan	9,400	6,510	33,900	19,500	13,500	68,600
Russia	455	312	1,270	17,000	11,200	47,500
South Africa	27,100	13,300	36,000	27,300	13,400	36,100
Sweden	258	178	735	1,710	1,160	4,280
Turkey	244	166	516	1,220	796	2,520
Zimbabwe	--	--	--	6,590	3,630	7,700
Total	40,400	22,300	78,100	77,300	46,300	176,000

-- 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	February		January–February ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
China	148	\$1,200	251	\$2,390
France	133	1,710	244	3,090
Germany	59	545	70	708
India	--	--	20	257
Russia	485	5,050	891	9,120
United Kingdom	269	4,210	390	6,080
Total	1,090	12,700	1,870	21,600
Waste and scrap:				
China	20	190	20	190
United Kingdom	79	775	79	775
Total	99	965	99	965
Other than waste and scrap and unwrought powders:				
China	(4)	18	1	118
Germany	1	108	1	140
Italy	(4)	3	(4)	3
Japan	2	72	2	83
Russia	10	171	149	1,540
United Kingdom	5	73	25	332
Total	18	445	178	2,220
All grades:				
China	169	1,410	272	2,700
France	133	1,710	244	3,090
Germany	60	653	71	848
India	--	--	20	257
Italy	(4)	3	(4)	3
Japan	2	72	2	83
Russia	495	5,220	1,040	10,700
United Kingdom	353	5,060	494	7,190
Total	1,210	14,100	2,140	24,800

-- 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	February		January-February ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	1,290	\$8,080	2,210	\$14,700
Flat-rolled (width > 600 mm)	15,600	66,700	30,100	130,000
Flat-rolled (width < 600 mm)	4,600	30,200	8,810	58,300
Bars and rods in irregular coils	154	891	316	1,840
Other bars and rods	1,940	25,900	3,960	49,100
Wire	588	11,000	1,190	21,300
Tubes, pipes, hollow profiles	3,000	29,000	5,560	56,800
Total	27,100	172,000	52,100	332,000
Stainless steel scrap	18,200	29,600	33,300	55,300
Grand total	45,300	201,000	85,400	388,000
Imports:				
Ingot	14,500	54,700	28,100	94,100
Flat-rolled (width > 600 mm)	43,200	146,000	88,300	294,000
Flat-rolled (width < 600 mm)	4,950	20,600	9,580	40,800
Bars and rods in irregular coils	2,920	12,800	7,880	31,900
Other bars and rods	10,500	50,800	21,000	101,000
Wire	4,560	23,600	9,320	48,800
Tubes, pipes, hollow profiles	14,200	94,300	26,000	169,000
Total	94,800	403,000	190,000	780,000
Stainless steel scrap	20,300	35,500	39,600	66,100
Grand total	115,000	439,000	230,000	846,000

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 charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.