

# 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 DECEMBER 2023

Stainless steel production increased by 10% in December 2023 compared with production in November 2023 and increased by 8% compared with production in December 2022. Production in 2023 decreased by 10% compared with production in 2022 (table 1). In December 2023, the leading import sources for ferrochromium into the United States were, in descending order of quantity by gross weight and chromium content, South Africa, Zimbabwe, and Kazakhstan (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 78% in December 2023 compared with imports in November 2023 and decreased by 29% compared with imports in

December 2022. Imports of all grades of chromium ferroalloys, including ferrochromium silicon, were more than double compared with imports in November 2023; however, most of that increase was owing to increases in high-carbon ferrochromium. Imports of chromium ferroalloys in December 2023 decreased by 14% compared with imports in December 2022; and imports in 2023 were one and a half times less than imports in 2022 (table 3). Stainless steel imports in December 2023 increased by 12% compared with imports in November 2023 and increased by 17% compared with imports in December 2022. Imports of stainless steel in 2023 were 18% less than imports in 2022. Stainless steel scrap imports in December 2023 increased by 34% than imports in November 2023 and increased by 38% compared with those in December 2022. Imports of stainless steel scrap in 2023 were 14% less

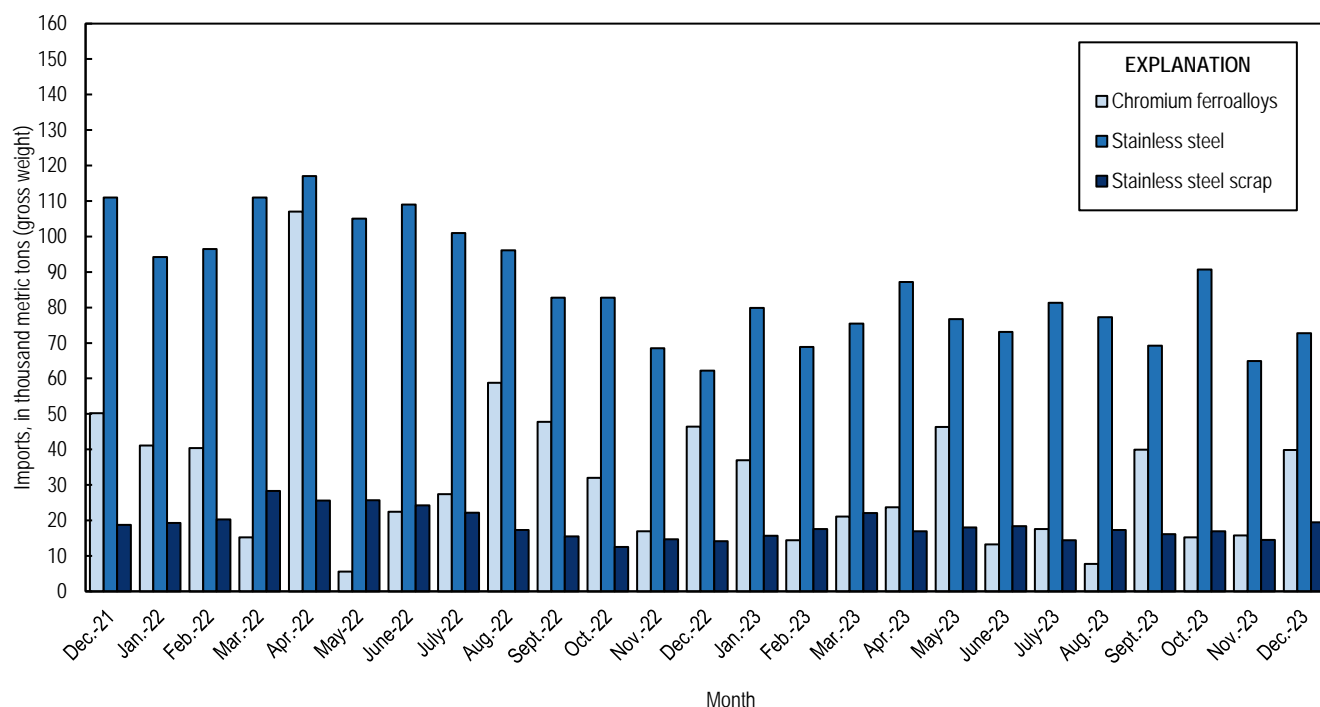


Figure 1. Chromium ferroalloys, stainless steel, and stainless steel scrap imports from December 2021 through December 2023. Source: U.S. Census Bureau.

than imports in 2022 (table 1).

The U.S. chromium metal (99% chromium) average price was \$5.04 per pound in December 2023, essentially unchanged from the average price in November 2023 and 9% less than the average price in December 2022. The U.S. high-carbon ferrochromium (minimum 62% chromium) average price was 203.13 cents per pound of contained chromium in December 2023, 3% less compared with the average price in November 2023 and 29% less than the average price in December 2022 (fig. 2) (Argus Metals International, 2023).

Industry News

The International Trade Administration issued a decision in December that antidumping and countervailing duties on stainless steel sheet and strip imported from Japan, the Republic of Korea, and Taiwan would not be revoked. The International Trade Commission and the U.S. Department of Commerce reported in October that revoking the duties would likely lead to a continuation or recurrence of countervailing subsidies or dumping that would result in material injury to U.S. industry. The affected stainless steel, an alloy steel containing, by weight, 1.2% or less of carbon and 10.5% or more chromium, included flat-rolled sheet and strip greater than 9.5 millimeters (mm) in width and less than 4.75 mm in thickness (U.S. Department of Commerce, 2023).

Dinson Iron and Steel Company (Pvt) Ltd. (DISCO) (Zimbabwe), a subsidiary of Tsingshan Holding Group (China), inaugurated its integrated steel plant in December. The steel plant consists of a carbon and steel plant, an iron ore mine, and a ferrochrome plant. In addition, DISCO signed a memorandum of understanding with the Government of Zimbabwe to improve and build a 1,000-kilometer railway line, which would enable local transportation and establish import-export routes through Mozambique (Project Blue, 2023, p. 8; Dinson Iron and Steel Company (Pvt) Ltd., undated).

Zimasco (Pvt) Ltd, a chromite mine operator and ferrochromium producer in Zimbabwe, idled four of its six furnaces at the Kwekwe ferrochromium plant, citing the high cost of electricity and depressed commodity prices (Project Blue, 2023, p. 8).

References Cited

Argus Metals International, 2023, Prices & data: Argus Media Group—Argus Nonferrous Metals, December 31. (Accessed February 8, 2024, via <https://www.argusmedia.com/metals>.)  
Dinson Iron and Steel Company (Pvt) Ltd., undated, About us: Chivhu, Zimbabwe, Dinson Iron and Steel Company (Pvt) Ltd. website (Accessed February 6, 2024, at <https://discosteel.com/about-us/>.)  
Project Blue, 2023, Chromium—Short-term outlook: London, United Kingdom, Project Blue, December, 10 p. (Accessed February 6, 2024, via <https://www.projectblue.com/>.)  
U.S. Department of Commerce, 2023, Stainless steel sheet and strip in coils from Japan, the Republic of Korea, and Taiwan—Continuation of antidumping duty orders and countervailing duty order: Federal Register, vol. 88, no. 234, December 7, p. 85232–85234. (Accessed February 6, 2024, at <https://www.federalregister.gov/documents/2023/12/07/2023-26884/stainless-steel-sheet-and-strip-in-coils-from-japan-the-republic-of-korea-and-taiwan-continuation-of>.)

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <https://www.usgs.gov/centers/national-minerals-information-center/minerals-information-publication-list-services>.

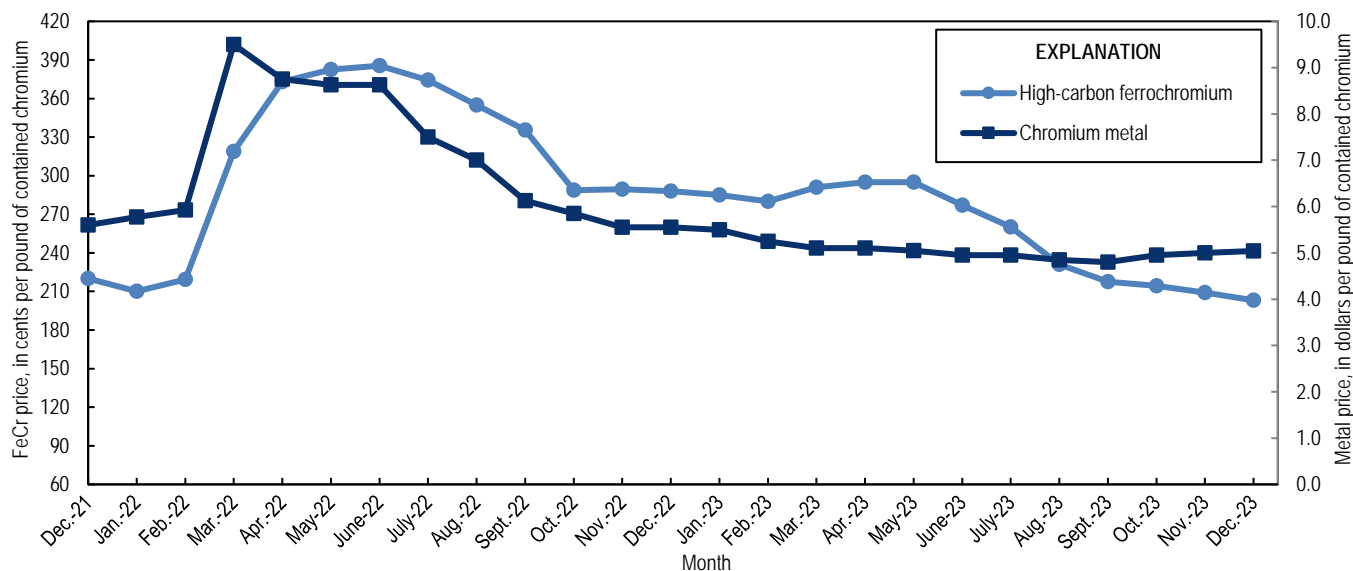


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium (FeCr) and chromium metal from December 2021 through December 2023. Source: Argus Metals International.

TABLE 1  
U.S. SALIENT CHROMIUM STATISTICS<sup>1</sup>

(Metric tons, gross weight)

	2022	2023			
	January– December	October	November	December	January– December
Production, stainless steel <sup>2</sup>	2,020,000	151,000	137,000	151,000	1,820,000
Components of U.S. supply:					
Stainless steel scrap receipts <sup>e</sup>	537,000	39,900 <sup>r</sup>	43,700 <sup>r</sup>	42,200	503,000
Stainless steel scrap consumption	806,000 <sup>e</sup>	61,800 <sup>r</sup>	62,600 <sup>r, e</sup>	60,400 <sup>e</sup>	743,000 <sup>e</sup>
Imports for consumption:					
Chromite ore	121,000	2,070	3,430	6,100	103,000
Ferrochromium:					
More than 4% carbon	399,000	9,220	12,800	36,900	252,000
More than 3% but not more than 4% carbon	36	30	2	28	98
More than 0.5% but not more than 3% carbon	2,250	104	504	457	2,950
Not more than 0.5% carbon	42,100	5,500	2,410	2,370	34,400
Ferrochromium silicon	17,100	324	--	--	1,680
Total ferroalloy imports	461,000	15,200	15,800	39,800	292,000
Chromium metal <sup>3</sup>	14,900	1,190	1,000	1,190	12,400
Stainless steel	1,130,000	90,700	64,900	72,800	918,000
Stainless steel scrap	240,000	16,900	14,500	19,500	207,000
Exports:					
Chromite ore	2,220	92	97	252	2,240
Chromium ferroalloys:					
High-carbon ferrochromium	3,640	141	236	219	4,100
Low-carbon ferrochromium	637	--	6	11	344
Ferrochromium silicon	40	--	--	--	83
Total ferroalloy exports	4,310	141	242	230	4,530
Chromium metal	567	47	26	29	447
Stainless steel	350,000	26,900	25,400	22,900	334,000
Stainless steel scrap	403,000	49,600	28,500	38,500	517,000

<sup>e</sup>Estimated. <sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Source: American Iron and Steel Institute.

<sup>3</sup>Includes waste and scrap and other.

TABLE 2  
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL<sup>1</sup>

	Chromite ore		Chromium ferroalloys <sup>2</sup>			Chromium metal <sup>3</sup>	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2022:							
December	180	\$151	896	432	\$841	83	\$1,530
January–December <sup>4</sup>	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
November	97	66	242	76	237	26	1,200
December	252	217	230	66	211	29	1,490
January–December <sup>4</sup>	2,240	1,860	4,530	1,480	4,540	447	13,500

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

<sup>2</sup>Includes low- and high-carbon ferrochromium and ferrochromium silicon.

<sup>3</sup>Includes chromium metal, waste and scrap, and unwrought powders.

<sup>4</sup>May 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 METAL<sup>1</sup>

(Metric tons)

	2022	2023		
	January– December	November	December	January– December <sup>2</sup>
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	5,750	156	2,190	6,220
Chromic oxide content	1,750	40	459	1,560
More than 40% but less than 46% chromic oxide:				
Gross weight	17,100	2,730	2,410	20,900
Chromic oxide content	7,400	1,180	1,050	9,060
46% or more chromic oxide:				
Gross weight	98,200	537	1,500	75,900
Chromic oxide content	83,300	263	1,360	66,700
Total, all grades:				
Gross weight	121,000	3,430	6,100	103,000
Chromic oxide content	92,500	1,480	2,870	77,300
Ferrochromium:				
Low-carbon: <sup>3</sup>				
Not more than 0.5% carbon:				
Gross weight	42,100	2,410	2,370	34,400
Chromium content	29,500	1,620	1,590	23,000
More than 0.5% but not more than 3% carbon:				
Gross weight	2,250	504	457	2,950
Chromium content	1,520	312	292	1,910
Total, low-carbon:				
Gross weight	44,300	2,920	2,830	37,300
Chromium content	31,000	1,930	1,880	24,900
Medium-carbon: <sup>4</sup>				
Gross weight	36	2	28	98
Chromium content	25	1	14	64
High-carbon: <sup>5</sup>				
Gross weight	399,000	12,800	36,900	252,000
Chromium content	224,000	7,370	19,500	140,000
Total, all grades:				
Gross weight	444,000	15,800	39,800	290,000
Chromium content	256,000	9,300	21,400	165,000
Chromium metal:				
Unwrought powders	13,500	790	952	10,500
Waste and scrap	519	66	44	451
Other than waste and scrap and unwrought powders	927	146	198	1,510
Total, all grades	14,900	1,000	1,190	12,400

-- Zero.

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

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

<sup>3</sup>Ferrochromium containing not more than 3% carbon.

<sup>4</sup>Ferrochromium containing more than 3% carbon but not more than 4% carbon.

<sup>5</sup>Ferrochromium 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 LOCALITY<sup>1</sup>

Grade and country or locality	December			January–December <sup>2</sup>		
	Gross weight (metric tons)	Chromium content (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value <sup>3</sup> (thousands)
<b>High-carbon ferrochromium:<sup>4</sup></b>						
Albania	--	--	--	1,090	723	\$2,910
Austria	--	--	--	140	93	381
Brazil	--	--	--	900	500	896
China	--	--	--	27	19	81
Finland	1,500	787	\$3,280	15,800	8,310	23,800
India	2,150	1,270	3,440	13,400	8,350	22,600
Kazakhstan	3,010	2,070	8,640	37,700	25,900	138,000
Oman	--	--	--	405	241	616
South Africa	23,500	11,600	27,400	127,000	62,500	144,000
Sweden	491	329	1,240	5,510	3,670	18,300
Switzerland	--	--	--	253	170	866
Turkey	--	--	--	15,500	10,400	40,600
Zimbabwe	6,260	3,450	6,470	34,400	19,100	43,400
<b>Total</b>	<b>36,900</b>	<b>19,500</b>	<b>50,500</b>	<b>252,000</b>	<b>140,000</b>	<b>436,000</b>
<b>Medium-carbon ferrochromium:<sup>5</sup></b>						
India	--	--	--	70	50	386
Kazakhstan	28	14	14	28	14	14
<b>Total</b>	<b>28</b>	<b>14</b>	<b>14</b>	<b>98</b>	<b>64</b>	<b>400</b>
<b>Low-carbon ferrochromium:<sup>6</sup></b>						
<b>More than 0.5% but not more than 3% carbon:</b>						
Brazil	350	217	1,050	1,860	1,160	5,690
China	--	--	--	25	16	105
India	27	19	97	127	85	495
Kazakhstan	80	56	448	936	656	6,310
<b>Total</b>	<b>457</b>	<b>292</b>	<b>1,600</b>	<b>2,950</b>	<b>1,910</b>	<b>12,600</b>
<b>Not more than 0.5% carbon:</b>						
Brazil	--	--	--	1,140	659	2,530
China	--	--	--	270	188	1,090
Germany	495	341	2,590	10,000	6,900	54,700
India	400	193	1,480	8,400	4,980	32,800
Japan	--	--	--	1,830	1,250	15,400
Kazakhstan	1,430	1,030	6,750	10,700	7,640	60,700
Russia	--	--	--	85	63	572
Turkey	40	28	151	1,860	1,300	9,770
United Kingdom	--	--	--	1	1	26
<b>Total</b>	<b>2,370</b>	<b>1,590</b>	<b>11,000</b>	<b>34,400</b>	<b>23,000</b>	<b>178,000</b>
<b>All grades:</b>						
Albania	--	--	--	1,090	723	2,910
Austria	--	--	--	140	93	381
Brazil	350	217	1,050	3,900	2,320	9,110
China	--	--	--	322	223	1,270
Finland	1,500	787	3,280	15,800	8,310	23,800
Germany	495	341	2,590	10,000	6,900	54,700
India	2,580	1,480	5,010	22,000	13,500	56,200
Japan	--	--	--	1,830	1,250	15,400
Kazakhstan	4,550	3,170	15,900	49,400	34,200	205,000
Oman	--	--	--	405	241	616
Russia	--	--	--	85	63	572
South Africa	23,500	11,600	27,400	127,000	62,500	144,000
Sweden	491	329	1,240	5,510	3,670	18,300
Switzerland	--	--	--	253	170	866
Turkey	40	28	151	17,300	11,700	50,300
United Kingdom	--	--	--	1	1	26
Zimbabwe	6,260	3,450	6,470	34,400	19,100	43,400
<b>Total</b>	<b>39,800</b>	<b>21,400</b>	<b>63,000</b>	<b>290,000</b>	<b>165,000</b>	<b>627,000</b>

-- Zero.

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

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

<sup>3</sup>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.

<sup>4</sup>Ferrochromium containing more than 4% carbon.

<sup>5</sup>Ferrochromium containing more than 3% carbon but not more than 4% carbon.

<sup>6</sup>Ferrochromium 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 LOCALITY<sup>1</sup>

Grade and country or locality	December		January–December <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (metric tons)	Value <sup>3</sup> (thousands)
Unwrought powders:				
Canada	--	--	(4)	\$6
China	617	\$5,680	5,430	52,100
France	--	--	312	5,050
Germany	33	216	135	1,130
India	--	--	156	1,750
Japan	(4)	2	(4)	7
Korea, Republic of	--	--	47	688
Russia	--	--	495	4,600
Spain	--	--	18	85
United Kingdom	303	4,230	3,870	60,100
Total	952	10,100	10,500	126,000
Waste and scrap:				
Canada	22	178	136	965
China	--	--	38	466
Germany	--	--	(4)	13
Japan	--	--	26	238
Korea, Republic of	--	--	(4)	5
Russia	--	--	1	11
Taiwan	--	--	12	47
United Kingdom	21	191	237	1,990
Total	44	369	451	3,740
Other than waste and scrap and unwrought powders:				
Brazil	--	--	41	809
Canada	--	--	(4)	221
China	1	99	13	1,230
France	194	2,040	1,230	16,800
Germany	2	314	34	2,690
Italy	(4)	17	(4)	17
Japan	(4)	11	5	168
Korea, Republic of	(4)	6	1	73
Malaysia	(4)	6	(4)	29
Russia	--	--	110	1,080
South Africa	--	--	31	290
Switzerland	--	--	(4)	16
Taiwan	(4)	4	1	62
United Kingdom	(4)	29	35	673
Total	198	2,520	1,510	24,100
All grades:				
Brazil	--	--	41	809
Canada	22	178	137	1,190
China	618	5,780	5,480	53,800
France	194	2,040	1,550	21,800
Germany	35	530	169	3,830
India	--	--	156	1,750
Italy	(4)	17	(4)	17
Japan	(4)	13	31	412
Korea, Republic of	(4)	6	48	766
Malaysia	(4)	6	(4)	29
Russia	--	--	606	5,690
South Africa	--	--	31	290
Spain	--	--	18	85
Switzerland	--	--	(4)	16
Taiwan	(4)	4	12	109
United Kingdom	324	4,450	4,140	62,800
Total	1,190	13,000	12,400	153,000

-- Zero.

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

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

<sup>3</sup>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.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6  
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2023<sup>1</sup>

Stainless steel product	December		January–December <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (metric tons)	Value <sup>3</sup> (thousands)
<b>Exports:</b>				
Ingot	719	\$6,360	10,800	\$81,100
Flat-rolled (width > 600 mm)	12,400	49,500	179,000	754,000
Flat-rolled (width < 600 mm)	3,540	39,800	56,800	551,000
Bars and rods in irregular coils	14	165	2,390	17,300
Other bars and rods	2,650	42,800	34,900	492,000
Wire	536	13,400	7,110	162,000
Tubes, pipes, hollow profiles	3,020	38,800	43,800	493,000
Total	22,900	191,000	334,000	2,550,000
Stainless steel scrap	38,500	44,200	517,000	466,000
Grand total	61,400	235,000	852,000	3,020,000
<b>Imports:</b>				
Ingot	13,000	35,000	164,000	484,000
Flat-rolled (width > 600 mm)	33,700	100,000	349,000	1,180,000
Flat-rolled (width < 600 mm)	2,980	13,400	51,600	250,000
Bars and rods in irregular coils	2,670	11,700	32,300	156,000
Other bars and rods	7,520	40,600	137,000	822,000
Wire	2,320	13,100	38,100	225,000
Tubes, pipes, hollow profiles	10,600	88,200	146,000	1,210,000
Total	72,800	302,000	918,000	4,330,000
Stainless steel scrap	19,500	22,000	207,000	240,000
Grand total	92,300	324,000	1,120,000	4,570,000

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

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

<sup>3</sup>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 incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.