

# Mineral Industry Surveys

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## CHROMIUM IN MARCH 2021

Estimated consumption of chromium, on a gross weight basis, in March 2021 increased by 7% compared with estimated consumption of chromium in February 2021, and was essentially unchanged compared with consumption in March 2020. Estimated consumer stocks increased slightly compared with stocks in February 2021 and essentially unchanged compared with those of March 2020 (tables 1, 2).

Stainless steel production increased by 8% in March 2021 compared with production in February 2021, and increased by 8% compared with production in March 2020 (table 1). Government stockpile inventories for chromium metal were essentially unchanged compared with those in February 2021 and decreased by 4% compared with those in March 2020.

Government stockpile inventories of ferroalloys decreased by 4% compared with those in February 2021 and decreased by 12% compared with those of March 2020 (table 3).

Imports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel commonly fluctuate from month to month (table 1). In March 2021, imports of all grades of chromium ferroalloys more than doubled compared with imports of chromium ferroalloys in February 2021 and increased by 51% compared with those in March 2020. Stainless steel imports in March 2021 increased by 6% compared with imports in February 2021 and decreased by 5% compared with those in March 2020 (fig. 1, table 1).

Exports of chromite ore, chromium ferroalloys, chromium

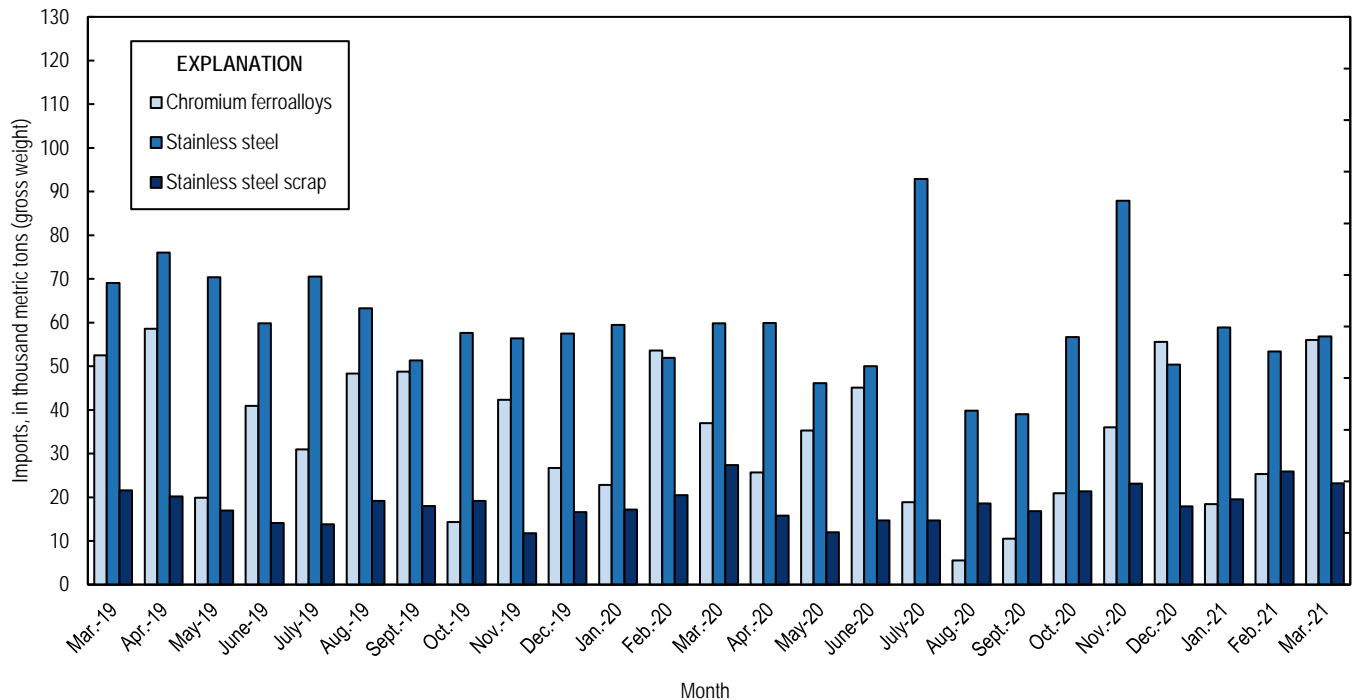


Figure 1. Chromium ferroalloys and stainless steel imports from March 2019 through March 2021. Source: U.S. Census Bureau.

metal, and stainless steel also frequently fluctuate from month to month (table 1, table 4). Exports of chromium ferroalloys increased by 88% in March 2021 compared with exports in February 2021 and increased by 98% compared with exports in March 2020. Stainless steel exports in March 2021 increased by 16% compared with exports in February 2021 and increased by 10% compared with those of March 2020 (table 1).

In March 2021, the leading import sources for ferrochromium (FeCr) into the United States were, in descending order of quantity by gross weight, South Africa, Kazakhstan, and Sweden (table 6), whereas the leading import sources for chromium metal were Russia, the United Kingdom, and France (table 7).

The U.S. chromium metal (99% Cr) average price was \$3.50 per pound in March 2021, a slight increase from the average price in February 2021, and a slight increase compared with the average price in March 2020. The U.S. high-carbon FeCr (62%–70% chromium) average price was 128.44 cents per pound of contained chromium in March 2021, a 7% increase from the average price in February 2021, and a 47% increase from the average price in March 2020 (fig. 2) (CRU Group, 2021a).

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Oman Chromite Co. reported that it would be unable to meet future production targets unless new exploration licenses were granted by Oman’s Ministry of Energy and Minerals.

Declining reserves and the need to remove large quantities of waste material to reach chromite ore in existing mines, along with the impact of the Covid-19 pandemic on the global economy, were cited as reasons for the decline in production (CRU Group, 2021b).

Canada’s Minister of Natural Resources announced a list of 31 minerals considered by Canada to be critical to its economy and global supply chains. This list included chromium (Bedder, 2021).

**References Cited**

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 CRU Group, 2021a, CRU prices: CRU Group, April 1. (Accessed May 11, 2021, via <http://www.crugroup.com/>.)  
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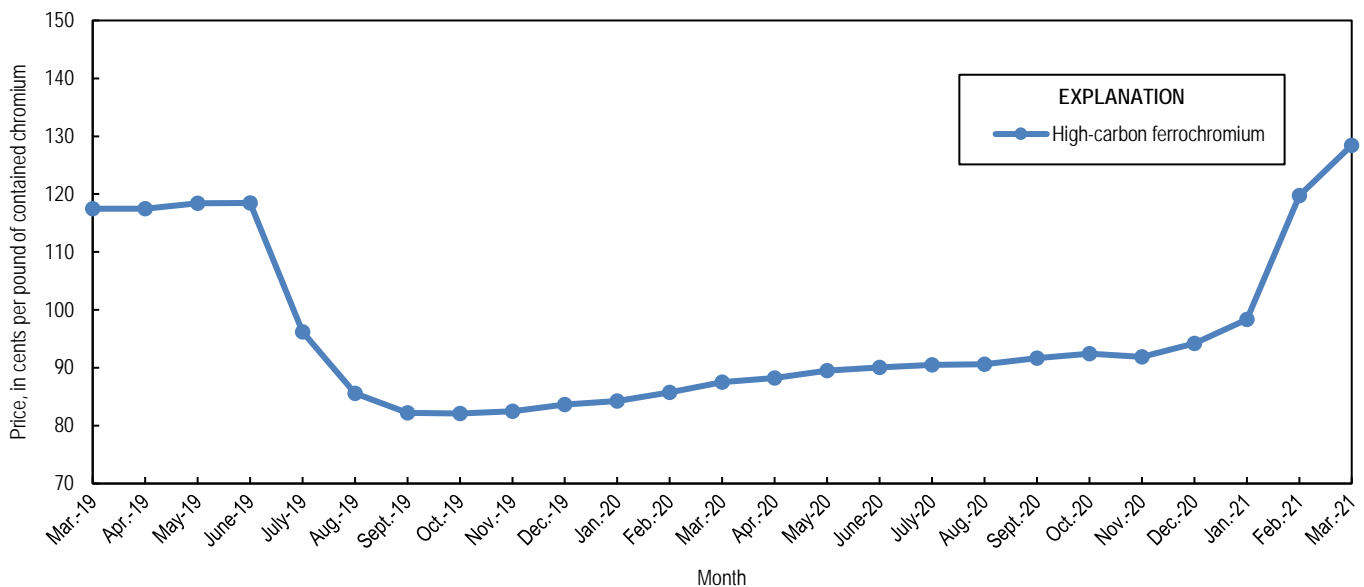


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium from March 2019 through March 2021. Source: CRU Group.

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

(Metric tons, gross weight)

	2020	2021			
	January– December <sup>p</sup>	January	February	March	January– March
Production, stainless steel <sup>2</sup>	2,140,000	211,000	199,000	215,000	624,000
Components of U.S. supply:					
Stainless steel scrap receipts	758,000 <sup>e</sup>	45,600	56,200	60,700 <sup>e</sup>	162,000 <sup>e</sup>
Stainless steel scrap consumption	1,150,000 <sup>e</sup>	71,600	84,600	91,500 <sup>e</sup>	248,000 <sup>e</sup>
Imports for consumption:					
Chromite ore	101,000	7,970	1,990	5,440	15,400
Ferrochromium:					
More than 4% carbon	310,000	10,300	15,500	47,500	73,300
More than 3% but not more than 4% carbon	212	--	6,500	55	6,550
More than 0.5% but not more than 3% carbon	3,360	--	644	488	1,130
Not more than 0.5% carbon	37,400	3,540	1,070	5,530	10,100
Ferrochromium silicon	15,800	4,530	1,640	2,400	8,580
Total ferroalloy imports	367,000	18,400	25,300	56,000	99,700
Chromium metal <sup>3</sup>	11,700	525	565	1,130	2,220
Stainless steel	694,000	58,900	53,400	56,800	169,000
Stainless steel scrap	220,000	19,500	25,900	23,200	68,500
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal <sup>e</sup>	335,000	34,300	32,200	34,300	101,000
Exports:					
Chromite ore	1,760	70	420	208	698
Chromium ferroalloys:					
High-carbon ferrochromium	949	24	50	60	133
Low-carbon ferrochromium	393	--	23	78	101
Ferrochromium silicon	238	--	39	71	110
Total ferroalloy exports	1,580	24	111 <sup>r</sup>	209	344
Chromium metal	378	44	30	47	120
Stainless steel	321,000	30,200	29,900	34,600	94,600
Stainless steel scrap	319,000	18,300	15,700	19,500	53,500
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal <sup>e</sup>	7,400	7,750	7,660	7,760	7,760
Government stockpile:					
Chromium ferroalloys	59,600	59,600	58,900	56,300	56,300
Chromium metal	3,750	3,750	3,690	3,690	3,690

<sup>e</sup>Estimated. <sup>p</sup>Preliminary. <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. CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS<sup>1</sup>

(Metric tons, gross weight unless otherwise noted)

	2021		
	February	March	January– March <sup>2</sup>
<b>Consumption by end use:</b>			
<b>Steel:</b>			
Carbon steel	W	W	W
High-strength low-alloy steel <sup>e</sup>	140	150	440
Stainless and heat-resisting steel <sup>e</sup>	28,000	30,000	88,000
Unspecified steel <sup>e, 3</sup>	3,400	3,400	10,200
Superalloys <sup>e</sup>	300	350	1,000
Other alloys and uses <sup>4</sup>	W	W	W
<b>Total<sup>e</sup></b>	<b>32,200</b>	<b>34,300</b>	<b>100,800</b>
<b>Total, chromium content<sup>e</sup></b>	<b>19,100</b>	<b>20,300</b>	<b>59,700</b>
<b>Consumption by material:</b>			
Low-carbon ferrochromium <sup>e</sup>	1,900	2,000	5,900
High-carbon ferrochromium <sup>e</sup>	28,000	30,000	88,000
Ferrochromium silicon	W	W	W
Chromium metal <sup>e</sup>	150	160	470
Chromite ore <sup>e</sup>	130	130	390
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
<b>Total<sup>e</sup></b>	<b>32,200</b>	<b>34,300</b>	<b>100,800</b>
<b>Total, chromium content<sup>e</sup></b>	<b>19,100</b>	<b>20,300</b>	<b>59,700</b>
<b>Consumer stocks:</b>			
Low-carbon ferrochromium <sup>e</sup>	800	800	800
High-carbon ferrochromium <sup>e</sup>	2,400	2,500	2,500
Ferrochromium silicon	W	W	W
Chromium metal <sup>e</sup>	20	20	20
Chromium-aluminum alloy	W	W	W
Other chromium materials <sup>e</sup>	4,100	4,100	4,100
<b>Total<sup>e</sup></b>	<b>7,660</b>	<b>7,760</b>	<b>7,760</b>
<b>Total, chromium content<sup>e</sup></b>	<b>4,870</b>	<b>4,930</b>	<b>4,930</b>

<sup>e</sup>Estimated. W Withheld to avoid disclosing company proprietary data; included in "Total."

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

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

TABLE 3  
U.S. GOVERNMENT STOCKPILE INVENTORY OF  
CHROMIUM MATERIALS<sup>1</sup>

(metric tons)

	Chromium ferroalloys		Chromium metal
	High-carbon ferro- chromium	Low-carbon ferro- chromium	
2020:			
March	36,700	27,100	3,850
April	36,700	27,100	3,850
May	36,000	26,800	3,850
June	35,700	26,800	3,840
July	35,100	26,800	3,840
August	33,900	26,800	3,830
September	33,900	26,800	3,830
October	33,900	26,800	3,830
November	33,900	26,800	3,790
December	33,000	26,600	3,750
2021:			
January	33,000	26,600	3,750
February	32,400	26,500	3,690
March	28,800	27,500	3,690

<sup>1</sup>Data 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 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)
2020:							
March	140	\$79	106	63	\$207	35	\$972
April	115	83	118	61	182	31	550
May	155	90	85	41	106	35	1,050
June	186	133	56	34	72	33	529
July	96	68	133	71	180	46	1,770
August	305	97	149	90	233	42	927
September	19	8	208	115	324	33	727
October	139	120	260	157	316	23	942
November	59	45	83	51	141	22	580
December	222	136	252	133	306	16	531
January–December <sup>4</sup>	1,760	1,050	1,580	893	2,280	378	9,960
2021:							
January	70	55	24	15	43	44	1,050
February	420	264	111	58	169	30	650
March	208	147	209	100	401	47	783
January–March	698	467	344	173	613	120	2,490

<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 5  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND  
CHROMIUM METAL<sup>1</sup>

(Metric tons)

	2020		2021	
	January– December	February	March	January– March <sup>2</sup>
<b>Chromite ore:</b>				
Not more than 40% chromic oxide:				
Gross weight	3,600	36	1,770	3,570
Chromic oxide content	909	14	374	752
More than 40% but less than 46% chromic oxide:				
Gross weight	11,000	1,920	2,100	5,070
Chromic oxide content	4,780	846	905	2,200
46% or more chromic oxide:				
Gross weight	86,300	39	1,570	6,760
Chromic oxide content	77,500	19	1,550	4,030
<b>Total, all grades:</b>				
Gross weight	101,000	1,990	5,440	15,400
Chromic oxide content	83,200	879	2,830	6,990
<b>Ferrochromium:</b>				
Low-carbon: <sup>3</sup>				
Not more than 0.5% carbon:				
Gross weight	37,400	1,070	5,530	10,100
Chromium content	25,200	771	3,910	7,190
More than 0.5% but not more than 3% carbon:				
Gross weight	3,360	644	488	1,130
Chromium content	2,260	427	347	774
<b>Total, low-carbon:</b>				
Gross weight	40,800	1,710	6,020	11,300
Chromium content	27,400	1,200	4,250	7,960
Medium-carbon: <sup>4</sup>				
Gross weight	212	6,500	55	6,550
Chromium content	116	3,310	29	3,340
High-carbon: <sup>5</sup>				
Gross weight	310,000	15,500	47,500	73,300
Chromium content	169,000	8,500	27,100	42,500
<b>Total, all grades:</b>				
Gross weight	351,000	23,700	53,600	91,100
Chromium content	196,000	13,000	31,400	53,800
<b>Chromium metal:</b>				
Unwrought powders	9,790	500	981	1,910
Waste and scrap	168	9	--	10
Other than waste and scrap and unwrought powders	1,690	55	151	306
<b>Total, all grades</b>	<b>11,700</b>	<b>565</b>	<b>1,130</b>	<b>2,220</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>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 6  
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2021, BY GRADE AND COUNTRY OR LOCALITY<sup>1</sup>

Grade and country or locality	March			January–March <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	1,290	876	\$1,670	1,840	1,270	\$2,320
Finland	--	--	--	1,500	800	1,190
India	189	113	159	688	415	580
Kazakhstan	8,330	5,760	13,700	19,800	13,700	28,000
Russia	487	336	598	781	533	931
South Africa	22,700	11,000	20,100	34,000	16,600	29,500
Sweden	9,100	6,050	13,400	9,100	6,050	13,400
Turkey	--	--	--	200	124	229
Zimbabwe	5,450	3,010	3,760	5,450	3,010	3,760
Total	47,500	27,100	53,300	73,300	42,500	79,900
<b>Medium-carbon ferrochromium:<sup>5</sup></b>						
Russia	55	29	29	55	29	29
South Africa	--	--	--	6,500	3,310	5,340
Total	55	29	29	6,550	3,340	5,370
<b>Low-carbon ferrochromium:<sup>6</sup></b>						
<b>More than 0.5% but not more than 3% carbon</b>						
Brazil	--	--	--	318	197	436
Kazakhstan	488	347	1,440	814	577	2,280
Total	488	347	1,440	1,130	774	2,720
<b>Not more than 0.5% carbon:</b>						
Belgium	--	--	--	368	287	1,160
Brazil	150	93	213	821	515	1,200
Germany	984	764	3,190	1,710	1,330	5,500
Japan	115	82	445	179	128	696
Kazakhstan	1,920	1,380	5,290	3,000	2,160	8,170
Russia	2,290	1,530	6,070	3,100	2,100	8,010
Turkey	75	51	184	966	666	2,040
Total	5,530	3,910	15,400	10,100	7,190	26,800
<b>All grades:</b>						
Albania	1,290	876	1,670	1,840	1,270	2,320
Belgium	--	--	--	368	287	1,160
Brazil	150	93	213	1,140	712	1,630
Finland	--	--	--	1,500	800	1,190
Germany	984	764	3,190	1,710	1,330	5,500
India	189	113	159	688	415	580
Japan	115	82	445	179	128	696
Kazakhstan	10,700	7,490	20,400	23,600	16,400	38,500
Russia	2,830	1,900	6,700	3,930	2,660	8,970
South Africa	22,700	11,000	20,100	40,500	19,900	34,800
Sweden	9,100	6,050	13,400	9,100	6,050	13,400
Turkey	75	51	184	1,170	790	2,270
Zimbabwe	5,450	3,010	3,760	5,450	3,010	3,760
Total	53,600	31,400	70,200	91,100	53,800	115,000

-- 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>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 7  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2021,  
BY GRADE AND BY COUNTRY OR LOCALITY<sup>1</sup>

Grade and country or locality	March		January–March <sup>2</sup>	
	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Gross weight (metric tons)	Value <sup>3</sup> (thousands)
Unwrought powders:				
Belgium	--	--	3	\$88
China	67	\$628	147	1,260
France	229	1,460	477	3,000
Germany	93	481	139	735
India	20	163	39	330
Russia	354	2,050	679	3,920
Spain	--	--	46	223
United Kingdom	219	1,930	375	3,290
Total	981	6,720	1,910	12,800
Waste and scrap:				
Canada	--	--	6	32
Germany	--	--	1	10
Japan	--	--	1	15
Liechtenstein	--	--	1	6
Taiwan	--	--	1	15
Total	--	--	10	78
Other than waste and scrap and unwrought powders:				
Canada	(4)	4	(4)	7
China	1	54	1	85
Germany	(4)	41	1	129
Japan	1	52	3	127
Liechtenstein	--	--	(4)	10
Malaysia	(4)	4	(4)	4
Netherlands	(4)	2	(4)	7
Russia	140	807	263	1,480
Spain	--	--	23	111
Taiwan	--	--	(4)	9
United Kingdom	9	100	15	170
Total	151	1,060	306	2,140
All grades:				
Belgium	--	--	3	88
Canada	(4)	4	6	39
China	68	682	148	1,350
France	229	1,460	477	3,000
Germany	93	522	141	874
India	20	163	39	330
Japan	1	52	4	142
Liechtenstein	--	--	1	16
Malaysia	(4)	4	(4)	4
Netherlands	(4)	2	(4)	7
Russia	494	2,850	942	5,400
Spain	--	--	69	334
Taiwan	--	--	1	24
United Kingdom	228	2,040	390	3,460
Total	1,130	7,780	2,220	15,100

-- 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 8  
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2021<sup>1</sup>

Stainless steel product	March		January–March <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	925	\$5,840	2,200	\$15,500
Flat-rolled (width > 600 mm)	21,000	65,400	59,300	175,000
Flat-rolled (width < 600 mm)	5,970	32,700	15,200	86,900
Bars and rods in irregular coils	198	887	684	3,750
Other bars and rods	2,220	24,500	6,350	61,800
Wire	1,070	10,500	2,310	25,300
Tubes, pipes, hollow profiles	3,210	28,800	8,550	78,300
Total	34,600	169,000	94,600	447,000
Stainless steel scrap	19,500	22,300	53,500	61,000
Grand total	54,000	191,000	148,000	508,000
<b>Imports:</b>				
Ingot	7,000	48,100	42,200	164,000
Flat-rolled (width > 600 mm)	21,800	56,700	53,400	131,000
Flat-rolled (width < 600 mm)	4,840	15,900	12,400	40,700
Bars and rods in irregular coils	2,910	9,560	6,310	22,200
Other bars and rods	9,010	36,600	24,900	96,700
Wire	3,470	14,800	8,840	35,600
Tubes, pipes, hollow profiles	7,740	44,900	21,000	122,000
Total	56,800	226,000	169,000	612,000
Stainless steel scrap	23,200	29,600	68,500	80,600
Grand total	80,000	256,000	238,000	692,000

<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.