Mineral Industry Surveys

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CHROMIUM IN MAY 2019

Reported consumption of chromium, on a gross weight basis, in May 2019 decreased slightly compared with reported consumption of chromium in April 2019, and decreased by 4% compared with reported consumption in May 2018. High-carbon ferrochromium accounted for 86% of the chromium material consumed in May 2019. Stainless and heat-resisting steel was the leading end use, consuming 89% of chromium materials. Consumer stocks increased by 7% compared with those of the previous month and increased slightly compared with those of May 2018 (tables 1, 2).

Stainless steel production decreased by 12% in May 2019 compared with production in April 2019, and decreased by 23% compared with production in May 2018 (table 1).

Government stockpile inventories for chromium metal have remained unchanged since February 2018. Government stockpiles inventories of ferroalloys decreased slightly compared with those of April 2019 and decreased by 9% compared with those of May 2018 (table 3).

Imports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel commonly fluctuate from month to month (table 1). Stainless steel imports in May 2019 decreased by 8% compared with imports in April 2019 and decreased by 22% compared with imports in May 2018 (fig. 1, table 1).

Exports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel also frequently fluctuate from month to month (table 1, table 4). Stainless steel exports in May 2019

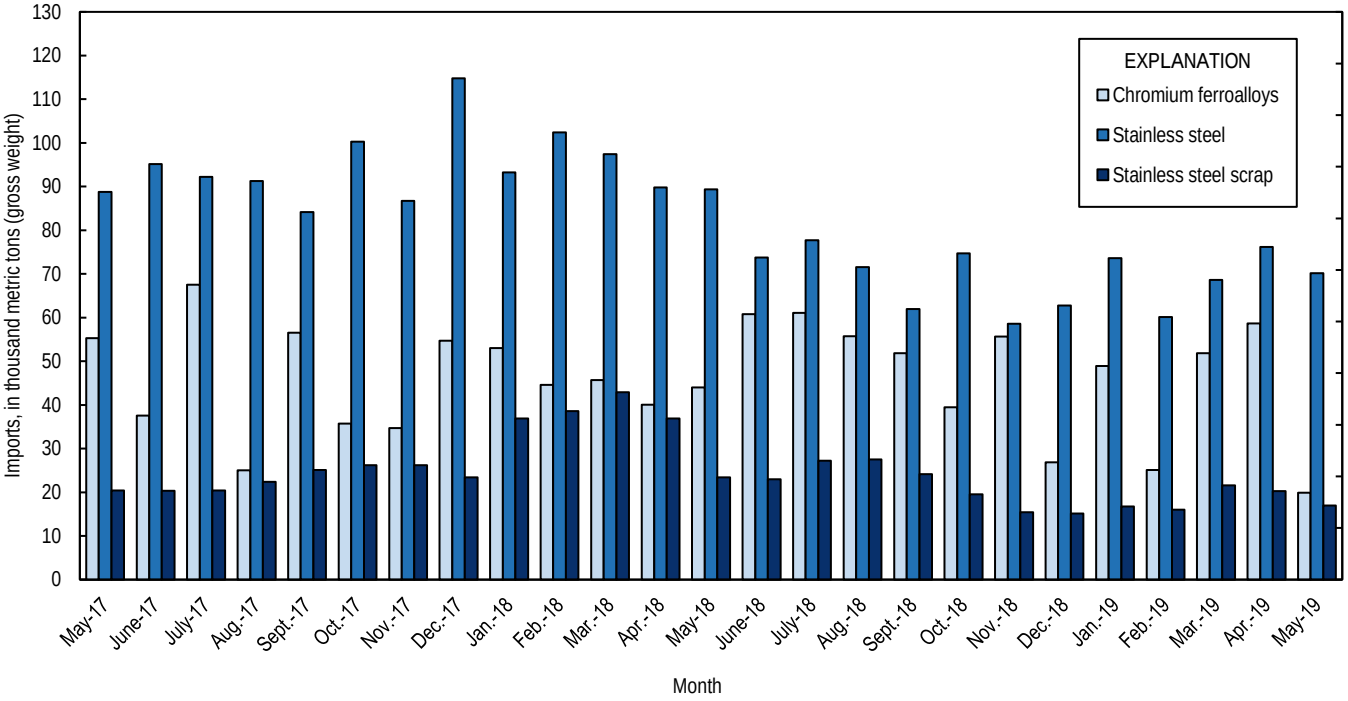

Figure 1. Chromium ferroalloys and stainless steel imports from May 2017 through May 2019. Source: U.S. Census Bureau.

increased by 42% compared with exports in April 2019 (table 1) and decreased by 24% compared with those of May 2018.

For May 2019, the leading import sources for ferrochromium (FeCr) into the United States were, in descending order of quantity by gross weight and chromium content, Kazakhstan, Albania, and India (table 6), whereas the leading import sources for chromium metal were the United Kingdom, Russia, and France (table 7).

The U.S. chromium metal (99% Cr) average price decreased slightly to $4.478 per pound in May 2019 compared with the average price in April 2019 and decreased by 27% compared with the average price in May 2018 (CRU Group, 2019). The U.S. high-carbon FeCr (62%–70% chromium) average price was 118.444 cents per pound of contained chromium in May 2019, essentially unchanged from the average price in April 2019 and a 18% decrease from the average price in May 2018 (fig. 2) (CRU Group, 2019). The high-carbon FeCr price began declining in September 2018 and continued to drop through January 2019, after which prices started to increase again.

Industry News

On May 10, the Office of the U.S. Trade Representative modified the tariff rate established under the Section 301 investigation on products of China from an additional duty of 10% to 25% (Office of the U.S. Trade Representative, 2019). Products affected were outlined in subchapter III of chapter 99 of the Harmonized Tariff Schedule of the United States (HTS) and included chromium chemical products with HTS codes 2819.10.00, 2819.90.00, 2833.29.40, 2841.30.00, 2841.50.10, 2841.50.91, 2841.90.45, 3206.20.00; high-carbon ferrochromium products with HTS codes 7202.41.00, 7202.49.10 and 7202.49.50; ferrosilicon-chromium products with HTS codes 7202.50.00; and chromium metal products with HTS codes 8112.29.00 (Office of the U.S. Trade Representative, 2018).

Noront Resources Ltd. (Canada) announced Sault Ste. Marie, MI, as the location for its new ferrochromium production facility. The Algoma Steel, Inc. site in Sault Ste. Marie was selected because its bid offered a lower operating cost per pound of ferrochromium produced (Noront Resources Ltd., 2019).

References Cited

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Office of the U.S. Trade Representative, 2019, Notice of modification of Section 301 action—China's acts, policies, and practices related to technology transfer, intellectual property, and innovation: Federal Register, v. 84, no. 90, May 9, p. 20459–20460. (Accessed July 9, 2019, at https://www.federalregister.gov/documents/2019/05/09/2019-09681/notice-of-modification-of-section-301-action-chinas-acts-policies-and-practices-related-to.)

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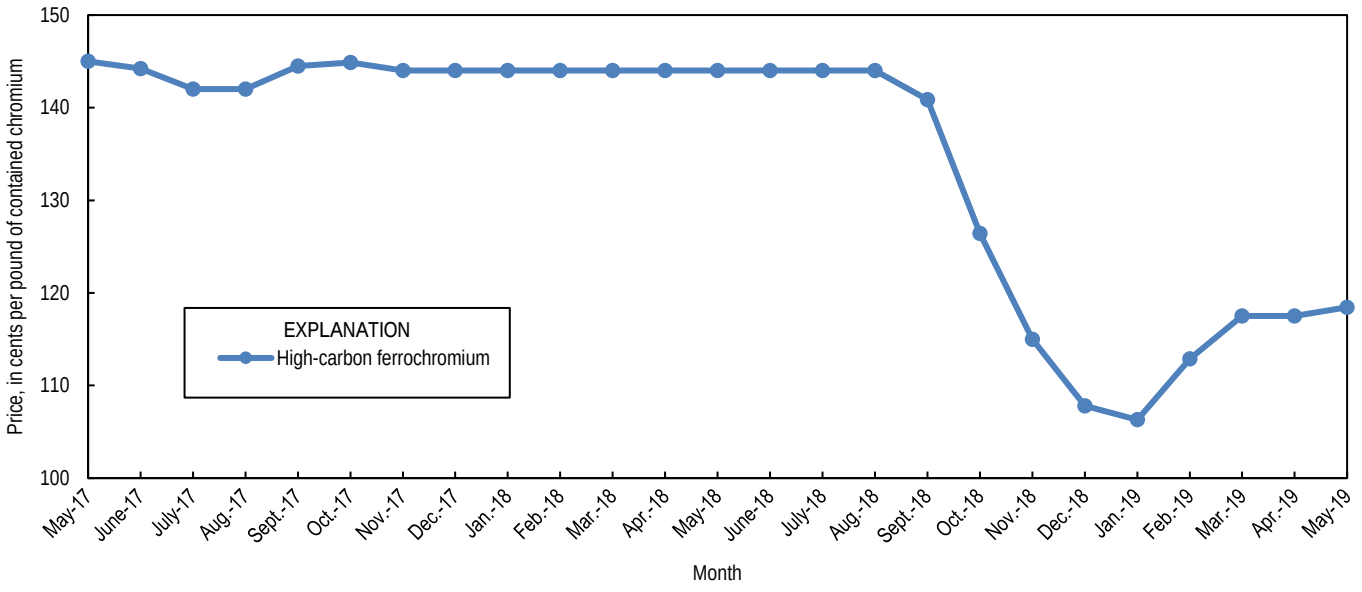

Figure 2. Average monthly prices for U.S. high-carbon ferrochromium from May 2017 through May 2019. Source: CRU Group.

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

(Metric tons, gross weight)

	2018	2019			
	January–December[p]	March	April	May	January–May[2]
Production, stainless steel[3]	2,810,000	235,000	233,000	205,000	1,140,000
Components of U.S. supply:					
Stainless steel scrap receipts	818,000 [r]	69,200 [r]	69,600 [r]	68,200	346,000
Stainless steel scrap consumption	1,240,000 [r]	107,000 [r]	108,000 [r]	104,000	523,000
Imports for consumption:					
Chromite ore	197,000	35,600	6,630	832	52,300
Ferrochromium:					
More than 4% carbon	495,000	40,400	54,300	16,000	175,000
More than 3% but not more than 4% carbon	8,610	--	--	--	54
More than 0.5% but not more than 3% carbon	4,130	486	39	--	1,200
Not more than 0.5% carbon	53,100	7,060	2,370	3,510	19,300
Ferrochromium silicon	18,000	3,880	1,930	432	8,550
Total ferroalloy imports	579,000	51,900	58,600	19,900	204,000
Chromium metal[4]	15,500	1,410	1,400	1,180	6,460
Stainless steel	953,000	68,600	76,100	70,200	349,000
Stainless steel scrap	331,000	21,600	20,300	17,000	91,600
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	391,000	33,100	33,400	32,800	162,000
Exports:					
Chromite ore	6,280	113	199	251	890
Chromium ferroalloys:					
High-carbon ferrochromium	731	153	134	21	527
Low-carbon ferrochromium	1,740	151	35	26	246
Ferrochromium silicon	60	18	--	--	18
Total ferroalloy exports	2,530	322	169	47	791
Chromium metal	514	26	28	70	191
Stainless steel	668,000	34,700	33,700	47,700	199,000
Stainless steel scrap	653,000	34,500	39,200	57,200	203,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	11,300	9,740 [r]	10,000	10,700	10,700
Government stockpile:					
Chromium ferroalloys	71,200	69,800	68,400	67,300	67,300
Chromium metal	3,850	3,850	3,850	3,850	3,850

[p]Preliminary. [r]Revised. -- 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. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS[1, 2]

(Metric tons, gross weight unless otherwise noted)

	2019		
	April	May	January–May[3]
Consumption by end use:			
Steel:			
Carbon steel	180 r	187	858
High-strength low-alloy steel	146	146	729
Stainless and heat-resisting steel	29,800	29,200	144,000
Unspecified steel[4]	2,720	2,720	13,600
Superalloys	433 r	433	2,170
Other alloys and uses[5]	96 r	98	481
Total	33,400	32,800	162,000
Total, chromium content	19,600	19,100	94,900
Consumption by material:			
Low-carbon ferrochromium	1,910 r	1,930	9,430
High-carbon ferrochromium	28,900	28,300	140,000
Ferrochromium silicon	W	W	W
Chromium metal	432 r	160	1,070
Chromite ore	18	20	106
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	33,400	32,800	162,000
Total, chromium content	19,600	19,100	94,900
Consumer stocks:			
Low-carbon ferrochromium	1,600 r	1,600	1,600
High-carbon ferrochromium	7,480 r	8,180	8,180
Ferrochromium silicon	685 r	789	789
Chromium metal	183 r	50	50
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	10,000	10,700	10,700
Total, chromium content	5,960 r	6,290	6,290

rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total."
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes estimates.
[3]May include revised data that are not broken out by specific month(s).
[4]Includes electrical, full alloy, tool, and unspecified steel end uses.
[5]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[1]

(metric tons)

	Chromium ferroalloys		
	High-carbon ferro-chromium	Low-carbon ferro-chromium	Chromium metal
2018:			
May	45,600	27,900	3,850
June	45,400	27,600	3,850
July	44,500	27,600	3,850
August	44,500	27,600	3,850
September	44,500	27,600	3,850
October	44,500	27,600	3,850
November	44,000	27,600	3,850
December	43,800	27,400	3,850
2019:			
January	43,800	27,400	3,850
February	43,300	27,400	3,850
March	42,400	27,400	3,850
April	41,000	27,400	3,850
May	39,900	27,400	3,850

[1]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[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)
2018:							
May	983	$398	204	90	$365	55	$1,300
June	225	177	680	408	855	45	1,310
July	811	456	255	153	420	41	1,090
August	181	138	123	81	291	33	990
September	294	395	165	99	222	53	1,280
October	637	408	406	224	565	43	1,160
November	843	398	123	68	231	43	982
December	741	368	90	42	111	29	674
January–December[4]	6,280	3,810	2,530	1,400	3,590	514	12,300
2019:							
January	169	124	204	64	188	25	644
February	158	134	48	29	111	44	1,220
March	113	106	322	175	667	26	848
April	199	226	169	78	256	28	1,190
May	251	192	47	28	87	70	2,460
January–May[4]	890	782	791	374	1,310	191	6,360

[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 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2018	2019		
	January–December	April	May	January–May[2]
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	462	113	105	371
Chromic oxide content	173	44	40	143
More than 40% but less than 46% chromic oxide:				
Gross weight	14,600	929	99	1,300
Chromic oxide content	6,590	400	44	566
46% or more chromic oxide:				
Gross weight	181,000	5,590	628	50,600
Chromic oxide content	85,800	4,280	294	25,500
Total, all grades:				
Gross weight	197,000	6,630	832	52,300
Chromic oxide content	92,600	4,720	378	26,200
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5% carbon:				
Gross weight	53,100	2,370	3,510	19,300
Chromium content	37,100	1,660	2,500	13,400
More than 0.5% but not more than 3% carbon:				
Gross weight	4,130	39	--	1,200
Chromium content	2,570	22	--	748
Total, low-carbon:				
Gross weight	57,300	2,410	3,510	20,500
Chromium content	39,700	1,680	2,500	14,200
Medium-carbon:[4]				
Gross weight	8,610	--	--	54
Chromium content	4,560	--	--	24
High-carbon:[5]				
Gross weight	495,000	54,300	16,000	175,000
Chromium content	269,000	27,800	10,700	95,400
Total, all grades:				
Gross weight	561,000	56,700	19,500	196,000
Chromium content	314,000	29,500	13,200	110,000
Chromium metal:				
Unwrought powders	7,920	1,080	1,000	5,050
Waste and scrap	177	13	48	157
Other than waste and scrap and unwrought powders	7,440	305	131	1,250
Total, all grades	15,500	1,400	1,180	6,460

-- 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 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2019, BY GRADE AND COUNTRY OR LOCALITY[1]

Grade and country or locality	May			January–May[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	2,720	1,810	$3,760	8,150	5,410	$11,300
Finland	--	--	--	80	41	78
Germany	--	--	--	3	2	11
India	2,510	1,580	2,910	13,800	8,510	14,100
Kazakhstan	8,260	5,780	11,900	23,800	16,600	36,900
Oman	1,650	979	1,730	4,060	2,400	4,770
Russia	--	--	--	965	658	1,210
South Africa	100	54	108	110,000	53,800	101,000
Sweden	209	139	316	902	604	1,320
Turkey	514	326	717	1,220	763	1,700
Zimbabwe	--	--	--	12,100	6,630	11,800
Total	16,000	10,700	21,500	175,000	95,400	184,000
Medium-carbon ferrochromium[5], South Africa	--	--	--	54	24	20
Low-carbon ferrochromium:[6]						
More than 0.5% but not more than 3% carbon						
Brazil	--	--	--	810	489	1,690
Kazakhstan	--	--	--	221	156	586
Russia	--	--	--	54	37	141
South Africa	--	--	--	119	67	207
Total	--	--	--	1,200	748	2,620
Not more than 0.5% carbon:						
Brazil	--	--	--	96	60	219
China	42	25	99	47	29	115
Germany	833	583	2,700	3,230	2,250	10,500
India	--	--	--	225	139	535
Japan	140	100	573	798	566	3,330
Kazakhstan	1,750	1,250	5,050	5,700	4,100	16,300
Russia	644	471	1,820	6,930	4,730	17,700
South Africa	--	--	--	40	22	69
Turkey	100	70	311	2,190	1,520	6,240
Total	3,510	2,500	10,500	19,300	13,400	55,000
All grades:						
Albania	2,720	1,810	3,760	8,150	5,410	11,300
Brazil	--	--	--	906	548	1,910
China	42	25	99	47	29	115
Finland	--	--	--	80	41	78
Germany	833	583	2,700	3,230	2,250	10,500
India	2,510	1,580	2,910	14,000	8,650	14,600
Japan	140	100	573	798	566	3,330
Kazakhstan	10,000	7,030	17,000	29,700	20,900	53,800
Oman	1,650	979	1,730	4,060	2,400	4,770
Russia	644	471	1,820	7,950	5,430	19,000
South Africa	100	54	108	110,000	53,900	101,000
Sweden	209	139	316	902	604	1,320
Turkey	614	396	1,030	3,410	2,280	7,940
Zimbabwe	--	--	--	12,100	6,630	11,800
Total	19,500	13,200	32,000	196,000	110,000	242,000

(See footnotes at end of table)

TABLE 6—Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2019, BY GRADE AND COUNTRY OR LOCALITY[1]

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

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2019,
BY GRADE AND BY COUNTRY OR LOCALITY[1]

Grade and country or locality	May		January–May[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	101	$828	1,060	$11,600
France	189	2,440	978	11,700
Germany	15	126	230	2,490
Japan	--	--	(4)	53
Korea, Republic of	--	--	1	38
Russia	292	2,740	1,070	10,800
Spain	18	117	18	117
Taiwan	1	30	1	30
United Kingdom	388	5,100	1,700	23,400
Total	1,000	11,400	5,050	60,200
Waste and scrap:				
Canada	3	15	16	70
China	--	--	2	95
Japan	4	69	28	236
Taiwan	--	--	15	313
United Kingdom	41	285	96	760
Total	48	369	157	1,470
Other than waste and scrap and unwrought powders:				
China	8	42	11	171
Czechia	1	7	1	7
France	--	--	357	4,550
Germany	1	66	4	285
Ireland	--	--	(4)	3
Israel	--	--	(4)	4
Japan	(4)	4	3	104
Liechtenstein	--	--	(4)	3
Lithuania	--	--	(4)	3
Malaysia	--	--	(4)	8
New Zealand	--	--	1	37
Russia	112	924	844	7,950
United Kingdom	9	168	29	424
Total	131	1,210	1,250	13,500
All grades:				
Canada	3	15	16	70
China	108	870	1,070	11,900
Czechia	1	7	1	7
France	189	2,440	1,340	16,200
Germany	16	192	234	2,770
Ireland	--	--	(4)	3
Israel	--	--	(4)	4
Japan	4	72	31	392
Korea, Republic of	--	--	1	38
Liechtenstein	--	--	(4)	3
Lithuania	--	--	(4)	3
Malaysia	--	--	(4)	8
New Zealand	--	--	1	37
Russia	405	3,660	1,910	18,700
Spain	18	117	18	117
Taiwan	1	30	16	343
United Kingdom	439	5,560	1,830	24,600
Total	1,180	13,000	6,460	75,200

(See footnotes at end of table.)

TABLE 7—Continued
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2019,
BY GRADE AND BY COUNTRY OR LOCALITY[1]

-- 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]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.
[4]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2019[1]

Stainless steel product	May		January–May[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Exports:				
Ingot	1,240	$7,410	7,360	$39,000
Flat-rolled (width > 600 mm)	32,700	82,600	126,000	333,000
Flat-rolled (width < 600 mm)	6,610	29,800	30,400	141,000
Bars and rods in irregular coils	252	1,380	1,640	6,080
Other bars and rods	2,670	28,000	14,000	141,000
Wire	773	10,400	3,710	48,700
Tubes, pipes, hollow profiles	3,410	32,900	15,900	161,000
Total	47,700	193,000	199,000	870,000
Stainless steel scrap	57,200	30,700	203,000	144,000
Grand total	105,000	223,000	401,000	1,010,000
Imports:				
Ingot	10,700	23,900	52,100	117,000
Flat-rolled (width > 600 mm)	21,000	51,300	113,000	274,000
Flat-rolled (width < 600 mm)	4,040	16,500	22,900	82,800
Bars and rods in irregular coils	4,350	13,300	15,800	55,200
Other bars and rods	12,200	48,800	62,300	239,000
Wire	4,310	18,800	21,200	94,900
Tubes, pipes, hollow profiles	13,600	76,300	60,900	357,000
Total	70,200	249,000	349,000	1,220,000
Stainless steel scrap	17,000	17,600	91,600	84,700
Grand total	87,200	266,000	440,000	1,300,000

[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]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.