

# Mineral Industry Surveys

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### **MANGANESE IN DECEMBER 2019**

On a gross-weight basis, U.S. imports of manganese ore in December 2019 decreased to 27,900 metric tons (t) from 49,600 t in November 2019 (fig. 1, table 5). Imports in 2019 totaled 434,000 t, slightly less compared with imports in 2018.

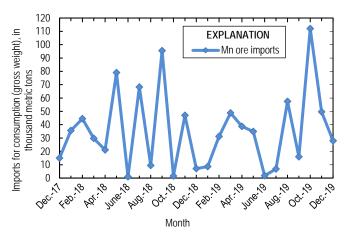


Figure 1. Monthly imports of manganese (Mn) ore from December 2017 through December 2019. Source: U.S. Census Bureau.

In December 2019, the average spot prices for manganese ore deliveries to China were \$3.68 per metric ton unit, 36%–39% grade, and \$3.74 per metric ton unit, 44% grade (fig. 2, table 1). Compared with November 2019 prices, the 36%–39%-grade price was 11% more and the 44%-grade price was slightly more. Compared with the monthly average prices in December 2018,

the 36%–39%-grade price was 42% less and the 44%-grade price was 48% less.

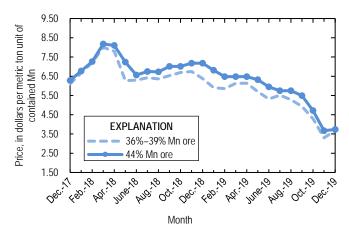


Figure 2. Average monthly spot prices for manganese (Mn) ore delivered to China from December 2017 through December 2019. Source: CRU Group.

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 ${\it TABLE~1}$  PRICES FOR MANGANESE FERROALLOYS, METAL, AND ORE IN DECEMBER 2019

		Low	Average	High
Manganese ferroalloys: <sup>1</sup>				
High-carbon ferromanganese, 75% manganese	dollars per long ton of contained manganese	1,056.25	1,081.25	1,106.25
Medium-carbon ferromanganese, 85% manganese	cents per pound of contained manganese	85.00	90.00	95.00
Silicomanganese, 65% manganese	do.	50.88	51.88	52.88
Manganese metal, 99.7% manganese flake <sup>2</sup>	cents per pound	95.00	97.50	100.00
Manganese ore: <sup>3, 4</sup>				
36%-39% manganese	dollars per metric ton unit contained manganese	3.25	3.68	3.75
44% manganese	do.	3.50	3.74	3.85

do. Ditto.

<sup>&</sup>lt;sup>1</sup>Platts Metals Week; in U.S. warehouse; average prices reported for all transactions during the month.

<sup>&</sup>lt;sup>2</sup>CRU Ryan's Notes North American transaction prices, electrolytic manganese metal flake, 99.7% manganese, ex-works; average prices reported for the price range.

<sup>&</sup>lt;sup>3</sup>CRU Ryan's Notes, cost and freight, China; average prices reported for the price range.

<sup>&</sup>lt;sup>4</sup>To determine dollars per metric ton of ore (gross weight), multiply the manganese content percentage by the price; that is, by 44 when the manganese content is 44%.

 $\label{eq:table 2} \textbf{TABLE 2}$  SELECTED U.S. FOREIGN TRADE IN MANGANESE  $^1$ 

(Metric tons, manganese content)<sup>2</sup>

	Imp	Imports for consumption			Exports		
	Ore and	Ferroalloy	Ferroalloy		Ferroalloy		
	dioxide	and metal	Total	Ore	and metal	Total	
2018:							
December	6,330	39,900	46,200	12	1,500	1,510	
January-December	208,000	635,000 r	843,000 <sup>r</sup>	1,460	15,300 <sup>r</sup>	16,700 r	
2019:							
January	4,670	27,000	31,600	19	1,690	1,710	
February	12,300	66,700	79,100	94	1,840	1,930	
March	25,600	55,700	81,300	45	1,330	1,370	
April	27,000	46,300	73,400	20	1,140	1,160	
May	17,500	59,300	76,800	27	1,090	1,120	
June	924	50,800	51,700	31	946	977	
July	3,400	28,800	32,200	96	1,610	1,700	
August	30,500	52,900	83,400	11	1,260	1,270	
September	10,100	45,100	55,100	76	1,330	1,410	
October	71,800	23,200	95,000	69	948	1,020	
November	25,900	46,600	72,500	8	1,500	1,510	
December	14,000	33,200	47,200	10	600	610	
January-December	244,000	536,000	779,000	505	15,300	15,800	

rRevised.

 $<sup>^{1}\</sup>mathrm{Data}$  are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>As reported except as estimated for imports of manganese dioxide and manganese waste and scrap and for exports from gross weights.

 ${\bf TABLE~3}$  U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN DECEMBER  $2019^1$ 

### (Metric tons)

				January–December <sup>2</sup>				
	Gross	Mn	Customs	Gross	Mn	Customs		
Source	weight	content	value <sup>3</sup>	weight	content	value <sup>3</sup>		
Australia	12,600	8,340	\$14,000,000	67,300	44,600	\$83,300,000		
Brazil				631	413	639,000		
Georgia	1,150	835	1,240,000	85,900	63,600	108,000,000		
Iceland				166	131	138,000		
India				267	157	388,000		
Malaysia	711	466	701,000	31,300	20,400	33,000,000		
Mexico	2,660	1,740	2,630,000	30,700	20,000	32,400,000		
Norway	1,000	286	1,320,000	43,500	27,600	52,500,000		
Russia	161	109	162,000	163	109	165,000		
Saudi Arabia				4,550	2,870	4,470,000		
South Africa	6,500	4,230	6,500,000	79,300	51,500	86,100,000		
Spain				7,010	4,500	8,400,000		
Thailand				25	9	38,800		
Zambia	<del></del>			140	92	106,000		
Total	24,700	16,000	26,600,000	351,000	236,000	409,000,000		

<sup>--</sup> Zero.

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

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

<sup>&</sup>lt;sup>3</sup>Customs 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 material into the United States.

 ${\bf TABLE~4}$  U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN DECEMBER  ${\bf 2019}^1$ 

### (Metric tons)

					January-December	er <sup>2</sup>
	Gross	Mn	Customs	Gross	Mn	Customs
Source	weight	content	value <sup>3</sup>	weight	content	value <sup>3</sup>
Low carbon:						
China	<u> </u>			927	871	\$1,810,000
Germany				470	441	1,180,000
Japan	96	75	\$145,000	1,350	1,060	2,260,000
Korea, Republic of	1,200	1,110	2,150,000	12,900	11,300	24,900,000
Mexico				2,270	1,790	4,040,000
Norway	1,320	1,070	2,290,000	36,200	29,300	60,900,000
South Africa	25	20	40,600	800	667	1,290,000
Spain				9,890	7,980	16,300,000
Vietnam				1	1	3,220
Total	2,640	2,270	4,630,000	64,800	53,400	113,000,000
Medium carbon, 1%–2% C:						
China				21	16	28,000
India	58	46	114,000	393	324	643,000
Korea, Republic of	1,000	800	1,360,000	17,900	14,300	28,800,000
Malaysia				21	16	30,700
Mexico	258	195	429,000	4,480	3,480	7,290,000
Norway				12,100	9,830	18,200,000
South Africa	5,190	4,180	8,700,000	24,500	19,600	42,300,000
Spain				300	242	488,000
Total	6,510	5,220	10,600,000	59,700	47,800	97,800,000
High carbon:						
Australia	6,110	4,650	5,910,000	78,600	60,000	86,800,000
Brazil				2,500	1,840	2,680,000
France				3,960	3,020	4,350,000
India	65	49	74,100	1,240	942	1,350,000
Korea, Republic of	1,000	760	939,000	4,600	3,510	5,010,000
Malaysia	136	102	153,000	59,500	45,100	53,400,000
Mexico	1	1	2,030	15	12	25,700
Norway				776	602	945,000
Russia				26,400	20,100	23,800,000
Saudi Arabia				60	44	98,200
South Africa	3,240	2,440	3,610,000	27,600	21,000	31,600,000
Spain	19	14	38,700	38	29	77,300
Ukraine				5,740	4,370	5,060,000
Zambia				218	175	224,000
Total	10,600	8,020	10,700,000	211,000	161,000	215,000,000
Grand total	19,700	15,500	26,000,000	336,000	262,000	426,000,000

<sup>--</sup> Zero.

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

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

<sup>&</sup>lt;sup>3</sup>Customs 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 material into the United States.

TABLE 5  $\mbox{U.S. IMPORTS FOR CONSUMPTION OF MANGANESE ORE (20% OR MORE Mn) } \\ \mbox{IN DECEMBER 2019}^1$ 

### (Metric tons)

				January–December <sup>2</sup>			
	Gross	Mn	Customs	Gross	Mn	Customs	
Source	weight	content	value <sup>3</sup>	weight	content	value <sup>3</sup>	
More than 20%, but less than 47% manganese:							
Brazil				16,200	7,190	\$3,330,000	
China				7	3	3,600	
Mexico				27,300	10,400	5,770,000	
South Africa	13,100	4,870	\$2,030,000	55,200	21,400	12,500,000	
Total	13,100	4,870	2,030,000	98,700	39,000	21,600,000	
47% or more manganese:							
Brazil				3,700	1,880	1,310,000	
Gabon	14,200	8,670	5,730,000	312,000	187,000	98,700,000	
Mexico				16,600	11,000	2,900,000	
Morocco	144	72	30,400	321	165	178,000	
South Africa	400	194	176,000	2,360	1,140	1,020,000	
Turkey				4	3	2,380	
Total	14,700	8,940	5,930,000	335,000	202,000	104,000,000	
Grand total	27,900	13,800	7,960,000	434,000	241,000	126,000,000	

<sup>--</sup> Zero.

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

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

<sup>&</sup>lt;sup>3</sup>Customs 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 material into the United States.

# $\label{eq:table 6} \text{U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE} \\ \text{IN DECEMBER 2019}^{\text{I}}$

(Metric tons, gross weight)

			January–	December <sup>2</sup>
		Customs		Customs
Source	Quantity	value <sup>3</sup>	Quantity	value <sup>3</sup>
Belgium			55	\$263,000
Brazil			104	155,000
China			54	132,000
Germany	8	\$45,400	33	174,000
Greece	<del></del>		470	1,160,000
India	28	54,200	505	872,000
Japan	234	502,000	3,360	7,460,000
Morocco	15	25,300	337	579,000
Slovakia	<del></del>		13	22,500
Spain	19	31,900	56	95,600
United Kingdom	<del></del>		8	12,900
Total	304	659,000	5,000	10,900,000

<sup>--</sup> Zero.

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

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

<sup>&</sup>lt;sup>3</sup>Customs 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 material into the United States.

# TABLE 7 $\mbox{U.s. IMPORTS FOR CONSUMPTION OF MANGANESE METAL} \\ \mbox{IN DECEMBER 2019}^{1}$

### (Metric tons)

		_	January–D	ecember <sup>2</sup>
	Gross	Customs	Gross	Customs
Source	weight	value <sup>3</sup>	weight	value <sup>3</sup>
Unwrought flake:				
China	303	\$502,000	7,070	\$14,100,000
Gabon	<del></del>		50	122,000
Hong Kong	<del></del>		33	66,30
Japan	(4)	126,000	2	2,300,000
Mexico	<del></del>		6	24,500
South Africa	180	371,000	3,660	9,310,00
Switzerland	<del></del>		20	39,50
Total	483	999,000	10,800	26,000,00
Unwrought powder:				
China	<del></del>		99	216,000
Mexico	29	108,000	263	974,00
South Africa	20	65,100	1,110	3,200,00
Total	49	174,000	1,470	4,390,00
Unwrought, other:		·		
Belgium	<del></del>		36	86,80
China	963	1,750,000	20,500	40,400,00
Germany	132	290,000	2,040	4,810,000
Hong Kong	<del></del>		388	685,00
Japan	<del></del>		(4)	6,26
New Zealand	<del></del>		1	2,91
Poland	<del></del>		(4)	9,06
South Africa	<del></del>		981	2,510,00
Spain			143	245,00
Total	1,100	2,040,000	24,100	48,700,00
Other manganese, wrought:		,,	,	-,,
Austria	<del></del>		(4)	6,04
China	<del></del>		(4)	27,30
Germany		138,000	346	4,220,00
Japan	<del></del>		(4)	67,70
Korea, Republic of	<del></del>		(4)	51,00
Mexico	40	87,800	636	1,740,00
Sweden			10	130,00
United Kingdom			(4)	2,09
Total	51	225,000	992	6,250,00
Metallic waste and scrap, Canada			364	119,000
		3 440 000		85,500,000
Grand total Zero.	1,680	3,440,000	37,700	

<sup>--</sup> Zero.

 $<sup>^{1}\</sup>mbox{Data}$  rounded to no more than three significant digits; may not add to totals shown.

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

<sup>&</sup>lt;sup>3</sup>Customs 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 material into the United States.

<sup>&</sup>lt;sup>4</sup>Less than ½ unit.

### TABLE 8

### U.S. EXPORTS OF MANGANESE ORE (20% OR MORE Mn), FERROMANGANESE, SILICOMANGANESE, AND MANGANESE METAL BY COUNTRIES OR LOCALITY OF DESTINATION IN DECEMBER $2019^{1,2}$

			January–December <sup>3</sup>		
	Gross weight	F.a.s. <sup>4</sup> value	Gross weight	F.a.s. <sup>4</sup> value	
Source	(metric tons)	(thousands)	(metric tons)	(thousands)	
Ore and concentrates with 20% or more manganese:					
Bahamas			6	\$6	
Belgium	20	\$71	20	71	
Canada			453	425	
India	-		19	33	
Mexico	-		23	26	
Netherlands	<del></del>		322	723	
Singapore			86	132	
United Kingdom			81	63	
Total	20	71	1,010	1,480	
Ferromanganese:					
2% or less carbon:					
Canada			1,140	2,040	
China			28	54	
Taiwan			6	11	
United Kingdom			29	55	
Other [6 countries and (or) localities]			28	55	
Total			1,230	2,210	
More than 2% carbon:			· · · · · · · · · · · · · · · · · · ·		
Canada			3,680	4,800	
China			16	46	
Hong Kong		<u></u>	1	3	
United Kingdom			26	73	
Total			3,720	4,920	
Silicomanganese:			3,720	1,720	
Canada	80	93	1,580	1,810	
Mexico	20	40	28	58	
Total	99	133	1,610	1,860	
Metal, including alloys and waste and scrap: <sup>5</sup>		133	1,010	1,000	
Australia			8	8	
Brazil			(6)	14	
Canada			106	366	
Costa Rica	(6)	12	1	61	
Dominican Republic	(0)	12	21	15	
France		<del></del>	15	5	
Germany		<del></del>	13	14	
	<del>-</del>	<del></del>		19	
Guatemala	<del></del>	<del></del>	2 4		
Guyana	<del>-</del>	<del></del>		13 4	
Hungary	<del></del>		(6)		
India	<del></del>		210	103	
Japan		205	85	319	
Malaysia	524	385	8,790	4,420	
Mexico	<del></del>		43	426	
New Zealand	<del></del>		(6)	5	
Norway			25	494	
Pakistan			900	263	
Turkey	<del></del>		52	28	
Other [7 countries and (or) localities]	10	23	33	99	
Total	534	420	10,300	6,680	
Grand total	653	624	17,900	17,200	

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Presentation of monthly data is based on the "January–December" quantities of the leading countries.

<sup>&</sup>lt;sup>2</sup>Data rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>3</sup>May include revised data that are not broken out by specific month(s).

<sup>&</sup>lt;sup>4</sup>Free alongside ship.

<sup>&</sup>lt;sup>5</sup>Includes manganese-aluminum, other alloys, and waste and scrap.

<sup>&</sup>lt;sup>6</sup>Less than ½ unit.

TABLE 9
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS
IN DECEMBER 2019, BY CLASS<sup>1</sup>

			January–December <sup>2</sup>			
			Principal sources and destinations:			Principal sources and destinations:
	Gross weight	Value <sup>3</sup>	gross weight (metric tons);	Gross weight	Value <sup>3</sup>	gross weight (metric tons);
Class	(metric tons)	(thousands)	value <sup>3</sup> (thousands)	(metric tons)	(thousands)	value <sup>3</sup> (thousands)
Imports for consumption:						
Manganese oxides other than dioxide	1,260	\$856	South Africa 485; \$295	17,000	\$12,300	South Africa 6,407; \$3,985
Manganites, manganates, and other permanganates				78	181	China 77; \$177
Potassium permanganate	86	206	India 86; \$206	1,240	3,080	India 1,233; \$3,038
Sodium permanganate	75	141	China 75; \$141	1,140	2,330	China 1,098; \$2,226
Sulfates, basket category, including manganese sulfate	5,580	3,920	Mexico 1,978; \$1,703	55,300	48,000	Mexico 22,245; \$17,626
Exports:						
Manganese dioxide	604	662	Canada 354; \$277	6,120	8,860	Canada 3,479; \$3,077
Manganese oxides other than dioxide	518	1,020	Poland 121; \$158	5,380	10,200	Poland 862; \$1,132
Manganites, manganates, and other permanganates	44	93	Canada 44; \$89	212	575	Canada 170; \$341
Potassium permanganate	204	675	Mexico 60; \$276	3,010	8,820	Belgium 1,156; \$2,809
Sodium permanganate	122	291	Belgium 56; \$121	815	2,010	Belgium 438; \$947
Sulfates, basket category, including manganese sulfate	1,130	2,110	Canada 761; \$716	25,300	40,200	Canada 19,604; \$16,857

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits.

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

<sup>&</sup>lt;sup>3</sup>For imports, customs value; for exports, free alongside ship value.