

# Mineral Industry Surveys

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## MANGANESE IN MARCH 2018

Preliminary data for March 2018 indicated that domestic consumption of manganese ore containing more than 20% manganese, exclusive of that consumed at iron and steel plants, was 40,000 metric tons (t) (gross weight). This was 25% more than the amount consumed in February 2018 (32,000 t) (fig. 1). Manganese ore consumption in the first 3 months of 2018 was 101,000 t; this was 7% less than the revised amount during the same period in 2017 (109,000 t) (fig. 1). Industry stocks of ore at the end of March 2018 were estimated to be 115,000 t, 23% less than the amount at the end of February 2018 (149,000 t).

On a gross-weight basis, U.S. imports of manganese ore in March 2018 were 29,700 t, down from 44,500 t in February 2018 (fig. 1, table 5).

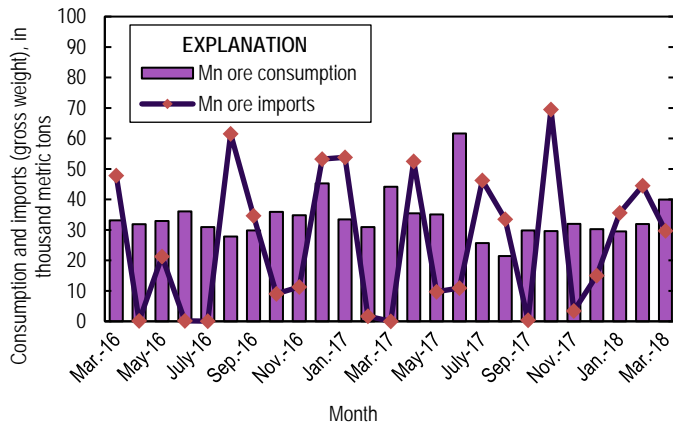


Figure 1. Monthly domestic consumption and imports of manganese (Mn) ore from March 2016 through March 2018. Sources: U.S. Census Bureau and U.S. Geological Survey.

In March 2018, the average spot prices for manganese ore deliveries to China were \$8.18 per metric ton unit, 36%–39% grade and \$8.00 per metric ton unit, 44% grade (fig. 2, table 1). Compared to February 2018, they were 13% more for the 36%–39% grade and 10% for the 44% grade. Compared to the prices of December 2016, they were slightly more for the 36%–39% grade and 9% less for the 44% grade. However, they were 164% and 167% higher, respectively, than those of March 2016.

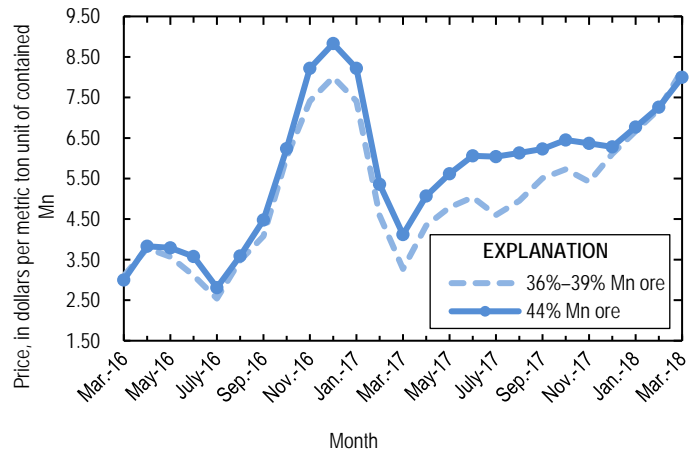


Figure 2. Average monthly spot prices for manganese (Mn) ore delivered to China from March 2016 through March 2018. Source: CRU Group.

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TABLE 1  
PRICES FOR MANGANESE FERROALLOYS, METAL, AND ORE IN MARCH 2018

		Low	Average	High
<u>Manganese ferroalloys:<sup>1</sup></u>				
High-carbon ferromanganese, 75% manganese	dollars per long ton of contained manganese	1,550.00	1,585.00	1,650.00
Medium-carbon ferromanganese, 85% manganese	cents per pound of contained manganese	110.00	112.50	115.00
Silicomanganese, 65% manganese	do.	67.00	68.50	70.00
<u>Manganese metal, 99.9% manganese flake<sup>2</sup></u>	cents per pound	112.00	121.11	127.00
<u>Manganese ore:<sup>3, 4</sup></u>				
36%–39% manganese	dollars per metric ton unit contained manganese	7.55	8.18	8.25
44% manganese	do.	7.30	8.00	8.80

do. Ditto.

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

<sup>2</sup>CRU Group North American transaction prices, electrolytic manganese metal flake, 99.99% manganese, free-on-board producing point or Chicago/Pittsburgh warehouse; Average prices reported for the price range.

<sup>3</sup>CRU Group, cost and freight, China; average prices reported for the price range.

<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%.

TABLE 2  
SELECTED U.S. FOREIGN TRADE IN MANGANESE<sup>1</sup>

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

	Imports for consumption			Exports		
	Ore and dioxide	Ferroalloy and metal	Total	Ore	Ferroalloy and metal	Total
2017:						
March	477	21,600	22,100	28	2,160	2,180
January–March	29,300	75,300	105,000	52	5,080	5,130
2018:						
January	17,300	66,800	84,000	18	221	239
February	23,200	34,700	57,900	47	805	852
March	10,600	59,300	69,900	25	993	1,020
January–March	51,100	161,000	212,000	90	2,020	2,110

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

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

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN MARCH 2018<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–March <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
Australia	13,000	8,550	\$17,100,000	28,000	18,500	\$36,100,000
Brazil	567	373	595,000	1,810	1,210	1,880,000
Georgia	12,600	8,890	14,000,000	28,800	20,800	31,800,000
India	624	370	888,000	840	497	1,200,000
Mexico	--	--	--	4,950	3,230	5,610,000
Norway	667	400	1,040,000	3,350	2,090	4,720,000
Saudi Arabia	5,010	3,310	4,810,000	5,010	3,310	4,810,000
South Africa	11,700	7,610	12,900,000	16,900	11,000	18,600,000
Total	44,200	29,500	51,400,000	89,700	60,600	105,000,000

-- 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 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.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN MARCH 2018<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–March <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
<b>Low carbon:</b>						
China	--	--	--	282	267	\$444,000
France	19	15	\$58,900	19	15	58,900
Germany	43	35	102,000	170	154	414,000
Japan	--	--	--	100	80	165,000
Korea, Republic of	1,300	1,200	2,510,000	2,900	2,670	5,550,000
Mexico	--	--	--	468	379	706,000
Norway	4,550	3,680	7,440,000	10,300	8,310	17,100,000
South Africa	--	--	--	82	71	138,000
Vietnam	80	72	178,000	80	72	178,000
Total	5,990	5,000	10,300,000	14,400	12,000	24,800,000
<b>Medium carbon, 1%–2% C:</b>						
China	--	--	--	94	74	208,000
Korea, Republic of	2,200	1,760	3,550,000	8,190	6,550	12,800,000
Mexico	320	258	484,000	1,490	1,180	2,260,000
Norway	888	721	1,410,000	3,190	2,590	4,880,000
South Africa	6,720	5,390	11,300,000	11,800	9,480	20,100,000
Total	10,100	8,130	16,800,000	24,800	19,900	40,300,000
<b>High carbon:</b>						
Australia	9,100	6,940	11,800,000	20,800	15,900	27,300,000
Brazil	323	243	320,000	1,480	681	1,300,000
France	4	3	8,120	4	3	8,120
Georgia	--	--	--	3,100	2,410	3,930,000
India	--	--	--	3,150	1,070	3,720,000
Korea, Republic of	--	--	--	1,000	760	1,150,000
Malaysia	--	--	--	20,400	15,500	26,400,000
Mexico	1	1	2,040	103	83	149,000
Norway	416	323	519,000	416	323	519,000
Russia	1,870	1,430	1,890,000	3,360	2,560	3,350,000
Saudi Arabia	20	13	36,200	58	37	98,900
South Africa	6,250	4,690	8,090,000	14,300	10,800	19,300,000
Spain	--	--	--	11,200	8,500	13,400,000
Ukraine	1,800	1,370	1,790,000	4,320	3,310	4,300,000
Total	19,800	15,000	24,500,000	83,600	61,800	105,000,000
Grand total	35,900	28,100	51,500,000	123,000	93,700	170,000,000

-- Zero.

<sup>1</sup>Data 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 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.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE ORE (20% OR MORE Mn)  
IN MARCH 2018<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–March <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
More than 20%, but less than 47% manganese:						
Gabon	--	--	--	9,610	4,130	\$1,910,000
South Africa	29,400	10,100	\$5,070,000	29,400	10,100	5,070,000
Total	29,400	10,100	5,070,000	39,000	14,200	6,980,000
47% or more manganese:						
Brazil	53	27	33,900	142	72	81,900
China	--	--	--	2	2	4,400
Gabon	4	3	6,630	69,900	35,600	21,300,000
Mexico	114	78	101,000	114	78	101,000
South Africa	117	57	46,700	574	279	238,000
Total	287	165	188,000	70,800	36,100	21,700,000
Grand total	29,700	10,200	5,260,000	110,000	50,200	28,700,000

-- Zero.

<sup>1</sup>Data 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 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.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE  
IN MARCH 2018<sup>1</sup>

(Metric tons, gross weight)

Source	Quantity	Customs value <sup>3</sup>	January–March <sup>2</sup>	
			Quantity	Customs value <sup>3</sup>
Belgium	--	--	1	\$5,950
Brazil	11	\$18,000	11	18,000
China	22	50,800	37	82,000
Japan	576	1,280,000	1,290	2,870,000
Mexico	--	--	(4)	2,210
Morocco	19	86,600	19	86,600
Spain	12	20,500	36	61,400
Ukraine	--	--	23	38,700
Total	640	1,450,000	1,420	3,160,000

-- Zero.

<sup>1</sup>Data 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 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>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE METAL  
IN MARCH 2018<sup>1</sup>

(Metric tons)

Source	Gross weight	Customs value <sup>3</sup>	January–March <sup>2</sup>	
			Gross weight	Customs value <sup>3</sup>
<b>Unwrought flake:</b>				
China	195	\$368,000	1,210	\$1,870,000
Japan	9	105,000	65	490,000
South Africa	82	175,000	658	1,500,000
Total	286	649,000	1,930	3,860,000
<b>Unwrought powder:</b>				
China	40	81,600	40	81,600
Mexico	6	19,900	23	78,100
South Africa	60	164,000	423	1,140,000
Total	106	265,000	486	1,300,000
<b>Unwrought, other:</b>				
China	1,080	1,960,000	3,430	6,000,000
Germany	181	365,000	376	748,000
South Africa	--	--	143	318,000
Spain	3	4,280	3	4,280
Total	1,260	2,320,000	3,950	7,070,000
<b>Other manganese, wrought:</b>				
China	(4)	6,600	(4)	6,600
France	--	--	(4)	2,150
Germany	20	245,000	65	772,000
Japan	(4)	105,000	(4)	122,000
Malaysia	--	--	(4)	3,040
Mexico	--	--	74	203,000
Poland	--	--	(4)	6,310
Sweden	--	--	8	75,600
Total	20	357,000	148	1,190,000
Grand total	1,670	3,600,000	6,510	13,400,000

-- Zero.

<sup>1</sup>Data 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 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>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.



TABLE 8  
U.S. EXPORTS OF MANGANESE ORE (20% OR MORE Mn), FERROMANGANESE,  
SILICOMANGANESE, AND MANGANESE METAL BY COUNTRIES OR LOCALITIES OF DESTINATION  
IN MARCH 2018<sup>1,2</sup>

Source	Gross weight (metric tons)	F.a.s. <sup>4</sup> value (thousands)	January–March <sup>3</sup>	
			Gross weight (metric tons)	F.a.s. <sup>4</sup> value (thousands)
<b>Ore and concentrates with 20% or more manganese:</b>				
Belgium	19	\$75	19	\$75
Canada	--	--	72	62
Mexico	4	6	20	20
Netherlands	28	135	71	339
Total	51	216	181	496
<b>Ferromanganese:</b>				
<b>2% or less carbon:</b>				
Canada	--	--	23	33
Honduras	--	--	1	7
Morocco	4	8	4	8
Total	4	8	28	48
<b>More than 2% carbon:</b>				
Australia	1	4	1	4
Canada	134	204	167	256
Costa Rica	2	10	2	10
Mexico	--	--	100	91
Total	138	217	270	360
Silicomanganese, Canada	442	643	1,040	1,460
<b>Metal, including alloys and waste and scrap:<sup>5</sup></b>				
Canada	2	11	7	21
Costa Rica	1	15	1	20
Germany	--	--	(6)	4
Guinea	--	--	1	5
India	--	--	77	22
Japan	20	61	39	128
Korea, Republic of	--	--	(6)	4
Malaysia	464	289	795	584
Mexico	4	25	74	433
South Africa	99	84	99	84
Venezuela	--	--	7	6
Total	589	484	1,100	1,310
Grand total	1,220	1,570	2,620	3,670

-- Zero.

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

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

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

<sup>4</sup>Free alongside ship.

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

<sup>6</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 9  
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS  
IN MARCH 2018, BY CLASS<sup>1</sup>

Class	Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Principal sources and destinations: gross weight (metric tons); value <sup>3</sup> (thousands)	January–March <sup>2</sup>		
				Gross weight (metric tons)	Value <sup>3</sup> (thousands)	Principal sources and destinations: gross weight (metric tons); value <sup>3</sup> (thousands)
<b>Imports for consumption:</b>						
Manganese oxides other than dioxide	3,490	\$2,980	South Africa 1,590; \$1,090	8,200	\$6,940	South Africa 3,520; \$2,410
Potassium permanganate	36	94	India 36; \$94	291	768	India 271; \$717
Sodium permanganate	75	164	China 75; \$164	330	761	China 330; \$761
Sulfates, basket category, including manganese sulfate	5,970	4,920	Mexico 2,320; \$1,660	15,600	14,200	China 7,110; \$5,480
<b>Exports:</b>						
Manganese dioxide	571	884	Canada 339; \$294	1,790	2,560	Canada 1,150; \$1,000
Manganese oxides other than dioxide	740	1,270	Korea, Republic of 143; \$227	1,820	3,360	Poland 312; \$413
Manganites, manganates, and other permanganates	7	13	Canada 7; \$13	18	57	Canada 16; \$34
Potassium permanganate	348	893	Belgium 164; \$406	892	2,470	Belgium 421; \$1,030
Sodium permanganate	87	174	Belgium 57; \$101	236	684	Belgium 76; \$141
Sulfates, basket category, including manganese sulfate	2,170	3,370	Canada 1,250; \$1,320	5,060	7,620	Canada 3,470; \$2,750

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

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

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

Source: U.S. Census Bureau.