

# Mineral Industry Surveys

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## MANGANESE IN MARCH 2017

Preliminary data for March 2017 indicated that domestic consumption of manganese ore containing more than 20% manganese, exclusive of that consumed at iron and steel plants, was 40,700 metric tons (t) (gross weight). This was 54% more than the amount consumed in February 2017 (26,400 t) (fig. 1). Manganese ore consumption during the first 3 months of 2017 was 93,500 t, which was about 4% less than the amount consumed during the same period in 2016 (96,900 t). Industry stocks of ore at the end of March 2017 were 134,000 t, slightly more than that at the end of February 2017 (133,000 t).

There were no U.S. imports of manganese ore in March 2017 (fig. 1, table 5).

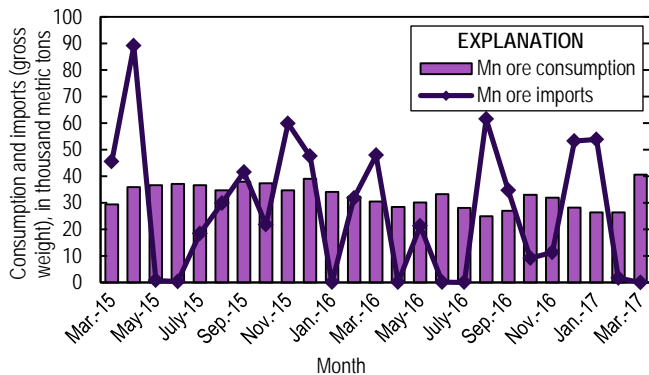


Figure 1. Monthly domestic consumption and imports of manganese (Mn) ore from March 2015 through March 2017. Sources: U.S. Census Bureau and U.S. Geological Survey.

In March 2017, the average monthly spot-market prices for manganese ore deliveries to China decreased compared to those

in February 2017. The average spot prices were 3.27 dollars per metric ton unit, 36%–39% grade and 4.12 dollars per metric ton unit, 44% grade (fig. 2, table 1). These were less than those in February 2017—29% for the 36%–39% grade and 23% for the 44% grade. However, they were higher than those in March 2016—5% for the 36%–39% grade and 37% for the 44% grade—and were approaching those of March 2015.

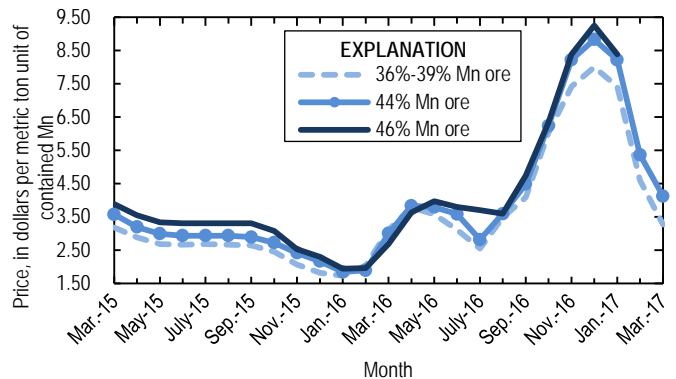


Figure 2. Average monthly spot prices for manganese (Mn) ore delivered to China from March 2015 through March 2017. Source: CRU Ryan’s Notes.

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TABLE 1  
PRICES FOR MANGANESE FERROALLOYS, METAL, AND ORE IN MARCH 2017

		Low	Average	High
Manganese ferroalloys: <sup>1</sup>				
High-carbon ferromanganese, 75% manganese	dollars per long ton of contained manganese	1,400.00	1,431.00	1,470.00
Medium-carbon ferromanganese, 85% manganese	cents per pound of contained manganese	108.00	110.00	112.00
Silicomanganese, 65% manganese	do.	66.00	68.40	72.00
Manganese metal, 99.9% manganese flake <sup>2</sup>	cents per pound	110.00	115.94	122.00
Manganese ore: <sup>3,4</sup>				
36%–39% manganese	dollars per metric ton unit contained manganese	2.50	3.27	4.50
44% manganese	do.	3.90	4.12	4.80

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 Ryan's Notes 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 Ryan's Notes, 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
2016:						
January	252	53,700	53,900	29	1,970	2,000
February	17,200	34,700	51,900	18	2,350	2,370
March	25,700	23,800	49,500	15	963	978
January–March	43,100	112,000	155,000	62	5,280	5,350
2017:						
January	27,700	33,200	60,900	9	901	910
February	1,120	20,500	21,600	15	2,020	2,040
March	477	21,600	22,100	28	2,160	2,180
January–March	29,300	75,300	105,000	52	5,080	5,130

<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 2017<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	7,860	5,220	\$11,100,000	14,400	9,540	\$18,200,000
France	--	--	--	2,300	1,390	3,680,000
Georgia	1,390	1,010	1,630,000	11,600	7,710	10,400,000
India	--	--	--	738	438	957,000
Malaysia	513	357	633,000	729	499	903,000
Mexico	2,020	1,320	2,680,000	8,570	5,590	9,430,000
Norway	559	244	729,000	1,980	1,110	2,830,000
Russia	3,940	2,620	5,100,000	8,910	5,980	11,400,000
South Africa	--	--	--	15,600	10,200	13,600,000
Spain	969	606	1,370,000	969	606	1,370,000
Total	17,300	11,400	23,200,000	65,800	43,000	72,800,000

-- 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 2017<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	203	179	\$319,000	1,480	1,370	\$2,330,000
France	--	--	--	3,300	2,680	5,410,000
Germany	41	39	114,000	46	44	126,000
Japan	--	--	--	15	12	34,800
Korea, Republic of	95	76	190,000	95	76	190,000
Mexico	80	64	101,000	300	240	377,000
Norway	268	218	484,000	4,480	3,640	7,410,000
South Africa	27	25	51,600	27	25	51,600
Total	714	601	1,260,000	9,740	8,090	15,900,000
<b>Medium carbon, 1%–2% C:</b>						
China	39	30	104,000	45	34	115,000
France	--	--	--	400	324	625,000
Germany	1	1	2,180	1	1	2,180
Korea, Republic of	494	395	751,000	494	395	751,000
Mexico	40	30	83,800	509	382	934,000
Norway	--	--	--	500	408	738,000
South Africa	--	--	--	2,540	2,060	3,330,000
Total	574	456	941,000	4,490	3,610	6,500,000
<b>High carbon:</b>						
Australia	9,150	7,010	11,000,000	19,000	11,300	19,800,000
Brazil	87	68	126,000	575	428	466,000
Canada	7	5	15,500	47	31	64,100
Georgia	--	--	--	104	81	150,000
Germany	3	2	3,710	3	2	3,710
Mexico	--	--	--	261	186	212,000
Norway	--	--	--	36	30	65,400
South Africa	20	13	25,600	3,250	2,470	3,770,000
Total	9,270	7,100	11,200,000	23,300	14,500	24,500,000
Grand total	10,600	8,160	13,400,000	37,500	26,200	47,000,000

-- 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 2017<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, South Africa	--	--	--	6,500	3,020	\$1,900,000
47% or more manganese:						
Brazil	--	--	--	201	128	95,700
Gabon	--	--	--	47,300	24,300	10,800,000
Korea, Republic of	--	--	--	20	14	12,800
Mexico	--	--	--	1,410	706	513,000
Morocco	--	--	--	39	22	50,900
South Africa	--	--	--	17	8	4,080
Total	--	--	--	49,000	25,200	11,400,000
Grand total	--	--	--	55,500	28,200	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.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE IN MARCH 2017<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>
Canada	--	--	3	\$3,380
China	2	\$9,530	15	47,600
Germany	2	9,390	3	17,900
India	35	64,600	35	64,600
Japan	738	1,520,000	1,600	3,310,000
Singapore	19	22,900	41	61,100
Ukraine	--	--	6	10,800
Total	796	1,630,000	1,700	3,510,000

-- 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 7  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE METAL IN MARCH 2017<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	81	\$190,000	203	\$413,000
Gabon	--	--	200	356,000
Japan	30	167,000	83	481,000
South Africa	834	2,110,000	2,480	6,020,000
Total	945	2,460,000	2,960	7,270,000
<b>Unwrought powder:</b>				
China	--	--	40	101,000
Mexico	2	7,260	29	97,100
South Africa	219	586,000	455	1,220,000
Total	221	594,000	524	1,420,000
<b>Unwrought, other:</b>				
Belgium	--	--	19	37,600
China	650	1,310,000	1,730	3,670,000
Germany	114	248,000	356	722,000
South Africa	122	260,000	285	583,000
Spain	23	45,300	46	90,500
Total	909	1,860,000	2,430	5,110,000
<b>Other manganese, wrought:</b>				
Germany	15	152,000	36	355,000
India	--	--	(4)	2,110
Japan	--	--	3	14,000
Mexico	--	--	6	23,600
Total	15	152,000	46	395,000
<b>Metallic waste and scrap:</b>				
Canada	--	--	141	43,300
Mexico	--	--	3	3,210
United Kingdom	2	5,530	2	5,530
Total	2	5,530	146	52,000
Grand total	2,090	5,070,000	6,110	14,200,000

-- 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 OF DESTINATION IN MARCH 2017<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>				
China	--	--	(5)	\$5
Mexico	8	\$9	10	15
Netherlands	48	211	95	409
Total	56	220	105	429
<b>Ferromanganese:</b>				
2% or less carbon:				
Canada	763	1,330	1,590	2,690
Dominican Republic	9	22	9	22
France	9	18	9	18
Israel	--	--	5	9
Total	782	1,370	1,620	2,730
More than 2% carbon:				
Argentina	--	--	8	23
Brazil	--	--	21	59
Canada	558	894	668	1,010
China	1	4	1	4
Germany	--	--	(5)	4
Malaysia	--	--	1	4
Mexico	--	--	115	166
Singapore	--	--	4	12
United Arab Emirates	3	9	6	17
United Kingdom	--	--	3	13
Total	562	906	830	1,320
<b>Silicomanganese:</b>				
Canada	1,260	1,730	2,830	3,880
Georgia	--	--	128	120
Total	1,260	1,730	2,950	4,000
<b>Metal, including alloys and waste and scrap:<sup>6</sup></b>				
Argentina	--	--	1	9
Belgium	--	--	16	303
Canada	3	7	5	14
China	4	68	68	305
Costa Rica	3	74	3	79
Germany	6	26	8	31
Guyana	4	12	4	12
India	67	131	322	200
Malaysia	164	63	632	291
Mexico	11	102	13	119
Other (8 countries)	1	14	128	264
Total	264	497	1,200	1,630
Grand total	2,920	4,720	6,700	10,100

-- 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>Less than ½ unit.

<sup>6</sup>Includes manganese-aluminum, other alloys, and waste and scrap.

Source: U.S. Census Bureau.

TABLE 9  
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS  
IN MARCH 2017, 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	1,930	\$1,570	South Africa 836; \$417	4,980	\$3,700	South Africa 2,380; \$1,170
Manganites, manganates, and other permanganates						
Permanganates	--	--	--	(4)	3	Canada (4); \$3
Potassium permanganate	38	94	India 37; \$90	144	354	India 127; \$318
Sodium permanganate	54	125	India 35; \$84	148	337	China 95; \$211
Sulfates, basket category, including manganese sulfate	5,610	5,180	Mexico 2,320; \$1,940	15,600	14,000	China 5,790; \$3,600
<b>Exports:</b>						
Manganese dioxide	867	1,180	El Salvador 322; \$387	1,560	2,310	Canada 574; \$464
Manganese oxides other than dioxide	959	1,770	Netherlands 409; \$306	1,880	3,240	Netherlands 504; \$379
Manganites, manganates, and other permanganates	5	13	Canada 4; \$8	12	33	Canada 11; \$21
Potassium permanganate	334	914	Belgium 145; \$347	691	1,920	Belgium 272; \$652
Sodium permanganate	57	301	Belgium 38; \$79	102	425	Belgium 76; \$160
Sulfates, basket category, including manganese sulfate	2,440	2,620	Canada 1,840; \$730	5,550	6,290	Canada 4,320; \$1,970

-- Zero.

<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.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.