

# Mineral Industry Surveys

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## MANGANESE IN SEPTEMBER 2017

Preliminary data for September 2017 indicated that domestic consumption of manganese ore containing more than 20% manganese, exclusive of that consumed at iron and steel plants, was 23,500 metric tons (t) (gross weight). This was 10% more than the amount consumed in August 2017 (21,400 t) (fig. 1). Manganese ore consumption during the first 9 months of 2017 was 281,000 t, which was 4% less the amount consumed during the same period in 2016. Industry stocks of ore at the end of September 2017 were 149,000 t, 6% more than the amount at the end of August 2017 (140,000 t).

On a gross-weight basis, U.S. imports of manganese ore in September 2017 were 351 t, down from 33,500 t in August 2017 (fig. 1, table 5).

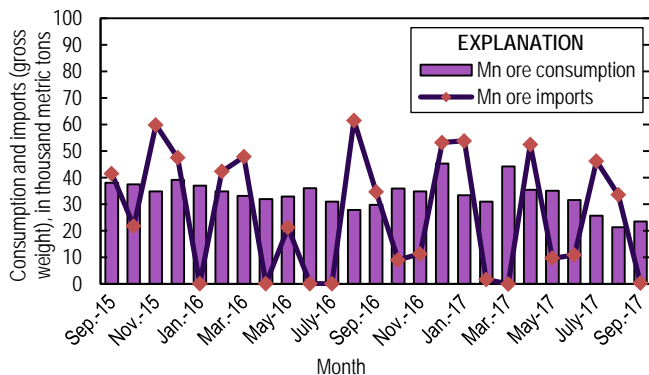


Figure 1. Monthly domestic consumption and imports of manganese (Mn) ore from September 2015 through September 2017. Sources: U.S. Census Bureau and U.S. Geological Survey.

In September 2017, the average monthly spot-market prices for manganese ore deliveries to China increased compared to

those in August 2017. The average spot prices were 5.51 dollars per metric ton unit, 36%–39% grade, and 6.23 dollars per metric ton unit, 44% grade (fig. 2, table 1). They were higher than those in September 2016—35% for the 36%–39% grade and 39% for the 44% grade—and about 109% to 116% more than those of September 2015, respectively. However, they were 31% and 29% less, respectively, than the 2-year-high prices of December 2016.

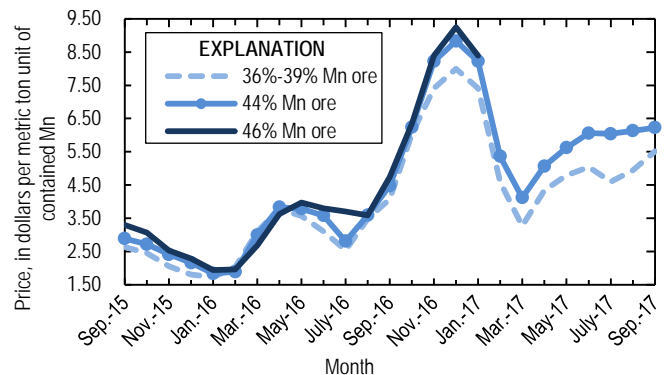


Figure 2. Average monthly spot prices for manganese (Mn) ore delivered to China from September 2015 through September 2017. Source: CRU Group.

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

		Low	Average	High
Manganese ferroalloys: <sup>1</sup>				
High-carbon ferromanganese, 75% manganese	dollars per long ton of contained manganese	1,530.00	1,561.25	1,600.00
Medium-carbon ferromanganese, 85% manganese	cents per pound of contained manganese	110.00	112.50	115.00
Silicomanganese, 65% manganese	do.	63.00	64.00	65.00
Manganese metal, 99.9% manganese flake <sup>2</sup>	cents per pound	106.00	108.00	110.00
Manganese ore: <sup>3,4</sup>				
36%–39% manganese	dollars per metric ton unit contained manganese	5.00	5.51	5.75
44% manganese	do.	6.05	6.23	6.40

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:						
September	19,100	40,500	59,600	26	788	814
January–September	107,000	306,000 <sup>r</sup>	413,000 <sup>r</sup>	187	10,700	10,900
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
April	42,300	59,500	102,000	10	1,990	2,000
May	5,030	53,300	58,400	43	1,240	1,280
June	10,300	44,800	55,100	139	905	1,040
July	27,800	57,300	85,100	120	411	531
August	18,100	46,900	65,000	145	1,430	1,580
September	610	49,700	50,300	5	1,080	1,090
January–September	133,000	387,000	520,000	515	12,100	12,700

<sup>r</sup>Revised.

<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 SEPTEMBER 2017<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–September <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
Australia	9,420	6,250	\$12,100,000	50,900	33,800	\$67,500,000
Brazil	514	339	553,000	2,130	1,400	2,240,000
Canada	--	--	--	76	36	48,600
France	--	--	--	2,300	1,390	3,680,000
Georgia	832	611	922,000	66,900	49,300	64,000,000
India	891	525	1,470,000	4,030	2,390	5,780,000
Italy	--	--	--	189	112	257,000
Malaysia	--	--	--	7,100	4,700	8,410,000
Mexico	--	--	--	20,800	13,000	20,700,000
Norway	51	33	66,500	12,900	7,820	19,600,000
Russia	4,790	3,330	5,600,000	18,100	12,300	22,500,000
Saudi Arabia	--	--	--	9,230	5,770	10,300,000
South Africa	6,500	4,230	7,150,000	61,200	39,800	63,000,000
Spain	2,960	1,990	5,360,000	14,700	9,630	19,300,000
Total	26,000	17,300	33,300,000	271,000	181,000	307,000,000

-- 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 SEPTEMBER 2017<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–September <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
<b>Low carbon:</b>						
Belgium	--	--	--	24	23	\$56,900
China	483	453	\$847,000	7,880	7,350	15,400,000
France	--	--	--	3,300	2,680	5,410,000
Germany	24	23	56,900	255	239	632,000
Japan	--	--	--	15	12	34,800
Korea, Republic of	1,310	1,160	2,500,000	7,560	6,710	14,900,000
Mexico	500	405	645,000	1,660	1,340	2,110,000
Norway	--	--	--	22,100	17,900	37,700,000
Russia	--	--	--	24	23	56,900
Saudi Arabia	--	--	--	5	4	8,590
South Africa	--	--	--	162	151	304,000
Total	2,320	2,040	4,050,000	42,900	36,400	76,700,000
<b>Medium carbon, 1%–2% C:</b>						
China	--	--	--	45	34	115,000
France	--	--	--	400	324	625,000
Germany	--	--	--	1	1	2,180
Korea, Republic of	4,020	3,220	6,040,000	16,400	13,100	24,800,000
Mexico	80	61	176,000	1,540	1,170	3,010,000
Norway	--	--	--	13,700	11,100	21,500,000
South Africa	2,540	2,050	4,770,000	17,100	13,800	29,700,000
Total	6,640	5,330	11,000,000	49,200	39,600	79,800,000
<b>High carbon:</b>						
Australia	13,000	9,910	17,000,000	51,500	36,100	60,700,000
Brazil	1,030	790	1,240,000	3,120	2,370	3,450,000
Canada	10	8	13,900	155	104	233,000
Georgia	--	--	--	2,400	1,860	2,230,000
Germany	--	--	--	3	2	3,710
Malaysia	186	141	227,000	6,260	4,710	8,400,000
Mexico	--	--	--	264	188	217,000
Netherlands	--	--	--	344	265	373,000
Norway	--	--	--	721	563	709,000
Russia	--	--	--	5,650	4,320	5,430,000
Saudi Arabia	22	13	36,400	161	121	252,000
South Africa	4,640	3,510	6,030,000	51,800	39,400	67,300,000
Spain	5,000	3,790	6,030,000	12,300	9,320	14,200,000
Ukraine	4,950	3,780	6,160,000	11,000	8,450	11,900,000
United Kingdom	3	2	3,980	3	2	3,980
Total	28,800	21,900	36,700,000	146,000	108,000	175,000,000
Grand total	37,800	29,300	51,800,000	238,000	184,000	332,000,000

-- 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 SEPTEMBER 2017<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–September <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
<b>More than 20%, but less than 47% manganese:</b>						
Cote d'Ivoire	--	--	--	332	133	\$19,800
Mexico	--	--	--	13,200	5,100	2,480,000
South Africa	--	--	--	11,000	5,100	2,220,000
Total	--	--	--	24,500	10,300	4,720,000
<b>47% or more manganese:</b>						
Australia	--	--	--	17,400	8,340	4,950,000
Brazil	53	26	\$36,700	572	314	375,000
Gabon	--	--	--	163,000	109,000	38,500,000
Georgia	--	--	--	122	88	138,000
Korea, Republic of	--	--	--	20	14	12,800
Mexico	--	--	--	1,410	706	513,000
Morocco	39	35	50,900	149	100	204,000
South Africa	260	126	111,000	2,090	1,020	665,000
Total	351	187	198,000	184,000	120,000	45,400,000
Grand total	351	187	198,000	209,000	130,000	50,100,000

-- 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 SEPTEMBER 2017<sup>1</sup>

(Metric tons, gross weight)

Source	Quantity	Customs value <sup>3</sup>	January–September <sup>2</sup>	
			Quantity	Customs value <sup>3</sup>
Belgium	26	\$98,200	68	\$231,000
Brazil	11	18,000	41	59,500
Canada	--	--	3	3,380
China	4	14,300	64	109,000
Germany	8	14,200	47	104,000
India	--	--	35	64,600
Japan	624	1,350,000	5,280	11,100,000
Morocco	--	--	19	86,600
Netherlands	--	--	22	38,100
Singapore	--	--	79	107,000
Spain	12	20,500	12	20,500
Ukraine	21	35,100	53	90,000
Total	705	1,550,000	5,720	12,000,000

-- 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 7  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE METAL IN SEPTEMBER 2017<sup>1</sup>

(Metric tons)

Source	Gross weight	Customs value <sup>3</sup>	January–September <sup>2</sup>	
			Gross weight	Customs value <sup>3</sup>
<b>Unwrought flake:</b>				
China	906	\$1,430,000	4,790	\$8,510,000
Gabon	--	--	200	356,000
Hong Kong	--	--	50	96,300
Japan	37	216,000	320	1,760,000
Mexico	20	51,200	50	148,000
South Africa	243	561,000	4,700	11,200,000
Total	1,210	2,250,000	10,100	22,000,000
<b>Unwrought powder:</b>				
China	40	68,000	179	357,000
Mexico	20	63,900	194	654,000
South Africa	60	167,000	1,260	3,450,000
Total	120	299,000	1,630	4,460,000
<b>Unwrought, other:</b>				
Belgium	--	--	38	78,900
China	1,360	2,360,000	7,490	14,100,000
Germany	191	432,000	1,230	2,560,000
Japan	--	--	(4)	2,210
Portugal	--	--	(4)	5,100
Russia	--	--	24	50,100
South Africa	20	45,000	494	1,050,000
Spain	--	--	46	90,500
Total	1,570	2,830,000	9,330	17,900,000
<b>Other manganese, wrought:</b>				
Canada	22	6,520	22	6,520
Germany	22	256,000	154	1,650,000
India	--	--	(4)	2,110
Japan	--	--	4	30,400
Malaysia	--	--	(4)	3,650
Mexico	--	--	81	220,000
South Africa	--	--	10	19,400
Total	43	263,000	270	1,930,000
<b>Metallic waste and scrap:</b>				
Canada	213	60,600	713	188,000
China	--	--	36	60,100
Mexico	--	--	3	3,210
United Kingdom	--	--	2	5,530
Total	213	60,600	753	257,000
Grand total	3,150	5,710,000	22,100	46,600,000

-- 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 LOCALITY OF DESTINATION IN SEPTEMBER 2017<sup>1,2</sup>

Source	Gross weight (metric tons)	F.a.s. <sup>4</sup> value (thousands)	January–September <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	--	--	431	\$371
Canada	--	--	20	19
China	--	--	48	61
Germany	--	--	205	168
Mexico	9	\$5	39	42
Netherlands	--	--	210	813
Poland	--	--	18	22
Taiwan	(5)	6	(5)	6
United Kingdom	--	--	59	43
<b>Total</b>	<b>9</b>	<b>11</b>	<b>1,030</b>	<b>1,540</b>
<b>Ferromanganese:</b>				
<b>2% or less carbon:</b>				
Canada	579	856	3,870	6,180
Chile	--	--	35	66
China	--	--	12	18
Other (6 countries)	--	--	34	74
<b>Total</b>	<b>579</b>	<b>856</b>	<b>3,950</b>	<b>6,330</b>
<b>More than 2% carbon:</b>				
Brazil	--	--	21	59
Canada	4	5	2,150	3,290
Mexico	--	--	217	263
Singapore	--	--	10	28
United Kingdom	--	--	14	42
Other (7 countries)	--	--	22	67
<b>Total</b>	<b>4</b>	<b>5</b>	<b>2,440</b>	<b>3,750</b>
<b>Silicomanganese:</b>				
Canada	747	1,060	6,100	8,620
Georgia	--	--	128	120
United Kingdom	--	--	4	6
<b>Total</b>	<b>747</b>	<b>1,060</b>	<b>6,230</b>	<b>8,750</b>
<b>Metal, including alloys and waste and scrap:<sup>6</sup></b>				
Belgium	--	--	16	303
Canada	1	6	25	96
Costa Rica	--	--	6	116
India	--	--	729	552
Japan	--	--	86	294
Malaysia	115	95	1,630	802
Mexico	2	10	176	669
Pakistan	--	--	93	72
Other (16 countries)	11	100	220	1,030
<b>Total</b>	<b>130</b>	<b>212</b>	<b>2,990</b>	<b>3,940</b>
<b>Grand total</b>	<b>1,470</b>	<b>2,150</b>	<b>16,600</b>	<b>24,300</b>

-- Zero.

<sup>1</sup>Presentation of monthly data is based on the "January–September " 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 SEPTEMBER 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-September <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	2,370	\$1,720	South Africa 1,240; \$589	18,400	\$13,200	South Africa 10,000; \$5,110
Manganites, manganates, and other permanganates	--	--	--	(4)	12	Canada (4); \$12
Potassium permanganate	108	276	India 108; \$276	576	1,460	India 558; \$1,411
Sodium permanganate	170	383	China 170; \$383	1,020	2,350	China 884; \$2,020
Sulfates, basket category, including manganese sulfate	5,120	3,580	India 1,740; \$841	46,000	36,400	China 17,400; \$13,100
<b>Exports:</b>						
Manganese dioxide	542	941	Canada 295; \$287	4,150	6,690	Canada 2,030; \$1,820
Manganese oxides other than dioxide	644	1,360	Mexico 377; \$944	5,330	9,760	Canada 974; \$1,390
Manganites, manganates, and other permanganates	21	45	Canada 21; \$45	80	355	Canada 76; \$157
Potassium permanganate	319	869	Belgium 199; \$477	2,440	6,630	Belgium 1,320; \$3,170
Sodium permanganate	97	234	Belgium 57; \$119	522	1,580	Belgium 298; \$632
Sulfates, basket category, including manganese sulfate	1,660	2,780	Canada 1,200; \$576	15,500	19,400	Canada 10,600; \$5,590

-- 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.