

# Mineral Industry Surveys

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## MANGANESE IN MAY 2018

Preliminary data for May 2018 indicated that domestic consumption of manganese ore containing more than 20% manganese, exclusive of that consumed at iron and steel plants, was 32,900 metric tons (t) (gross weight). This was 5% more than the revised amount consumed in April 2018 (31,500 t) (fig. 1). Manganese ore consumption in the first 5 months of 2018 was 166,000 t; this was 7% less than that during the same period in 2017 (179,000 t) (fig. 1). Industry stocks of ore at the end of May 2018 were estimated to be 163,000 t, 3% more than the revised amount at the end of April 2018 (158,000 t).

On a gross-weight basis, U.S. imports of manganese ore in May 2018 were 79,100 t, more than triple the 21,100 t in April 2018 (fig. 1, table 5).

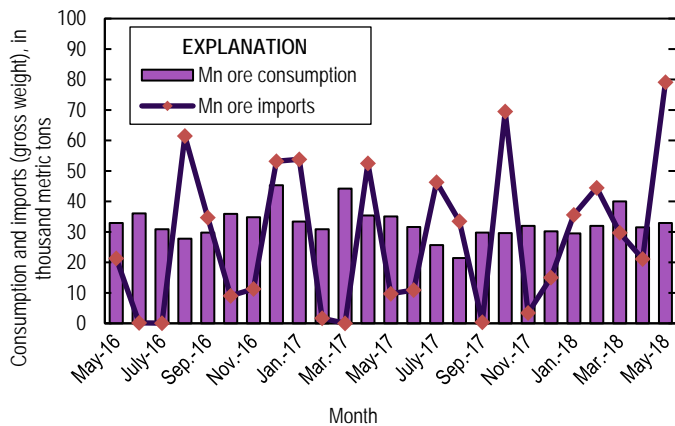


Figure 1. Monthly domestic consumption and imports of manganese (Mn) ore from May 2016 through May 2018. Sources: U.S. Census Bureau and U.S. Geological Survey.

In May 2018, the average spot prices for manganese ore deliveries to China were \$6.27 per metric ton unit, 36%–39% grade and \$7.24 per metric ton unit, 44% grade (fig. 2, table 1). Compared with April 2018 prices, they were 20% less for the 36%–39% grade and 11% less for the 44% grade. Compared with the prices of December 2016, they were 22% lower for the 36%–39% grade and 18% lower for the 44% grade. However, they were both almost double those of May 2016.

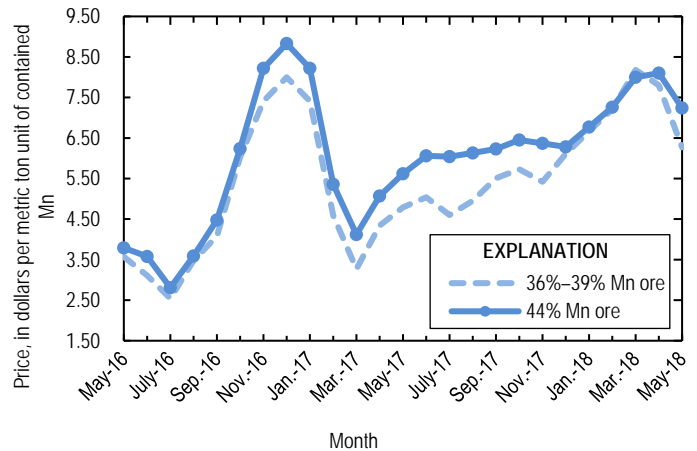


Figure 2. Average monthly spot prices for manganese (Mn) ore delivered to China from May 2016 through May 2018. Source: CRU Group.

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

		Low	Average	High
<b>Manganese ferroalloys:<sup>1</sup></b>				
High-carbon ferromanganese, 75% manganese	dollars per long ton of contained manganese	1,550.00	1,595.00	1,640.00
Medium-carbon ferromanganese, 85% manganese	cents per pound of contained manganese	112.00	113.80	116.00
Silicomanganese, 65% manganese	do.	63.00	67.20	69.00
Manganese metal, 99.9% manganese flake <sup>2</sup>	cents per pound	128.00	130.50	133.00
<b>Manganese ore:<sup>3,4</sup></b>				
36%–39% manganese	dollars per metric ton unit contained manganese	5.80	6.27	6.70
44% manganese	do.	6.40	7.24	7.85

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:						
May	5,030	53,300	58,400	43	1,240	1,280
January–May	76,600	188,000	265,000	105 <sup>r</sup>	8,310	8,410
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
April	10,500	41,700	52,200	16	1,250	1,270
May	36,500	67,700	104,000	30	1,240	1,270
January–May	98,100	270,000	368,000	136	4,510	4,650

<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 MAY 2018<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–May <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
Australia	15,900	10,600	\$21,000,000	45,400	29,500	\$57,600,000
Belgium	--	--	--	1,890	1,240	2,300,000
Brazil	135	90	142,000	2,970	1,980	3,100,000
Georgia	1,670	1,210	1,760,000	43,200	31,400	48,100,000
India	100	59	145,000	1,360	803	1,950,000
Malaysia	3,000	1,950	3,710,000	6,000	3,900	7,010,000
Mexico	2,110	1,380	2,310,000	12,300	8,060	13,900,000
Norway	2,170	1,370	3,310,000	10,100	6,780	14,000,000
Russia	--	--	--	3,000	2,000	3,750,000
Saudi Arabia	--	--	--	5,010	3,310	4,810,000
South Africa	100	66	146,000	29,000	18,900	32,000,000
Spain	1,440	1,030	2,350,000	2,010	1,400	3,030,000
Total	26,600	17,700	34,800,000	162,000	109,000	192,000,000

-- 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 MAY 2018<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–May <sup>2</sup>		
				Gross weight	Mn content	Customs value <sup>3</sup>
<b>Low carbon:</b>						
China	408	381	\$907,000	751	707	\$1,460,000
France	--	--	--	19	15	58,900
Germany	24	20	53,200	195	174	467,000
Japan	--	--	--	100	80	165,000
Korea, Republic of	1,100	1,010	2,350,000	4,000	3,680	7,900,000
Mexico	218	176	327,000	1,190	961	1,760,000
Norway	6,870	5,550	11,500,000	19,800	16,000	33,200,000
South Africa	--	--	--	82	71	138,000
Vietnam	80	72	177,000	240	216	529,000
<b>Total</b>	<b>8,700</b>	<b>7,210</b>	<b>15,400,000</b>	<b>26,400</b>	<b>21,900</b>	<b>45,700,000</b>
<b>Medium carbon, 1%–2% C:</b>						
China	--	--	--	94	74	208,000
France	2,900	2,360	4,600,000	2,900	2,360	4,600,000
Korea, Republic of	4,630	3,710	7,410,000	13,700	11,000	21,600,000
Mexico	179	137	350,000	2,600	2,040	4,260,000
Norway	1,430	1,150	2,240,000	5,200	4,220	8,050,000
South Africa	5,070	4,080	8,560,000	16,900	13,600	28,700,000
<b>Total</b>	<b>14,200</b>	<b>11,400</b>	<b>23,200,000</b>	<b>41,400</b>	<b>33,200</b>	<b>67,400,000</b>
<b>High carbon:</b>						
Australia	13,000	9,920	17,300,000	33,800	25,800	44,700,000
Brazil	621	471	741,000	2,100	1,150	2,040,000
France	--	--	--	4	3	8,120
Georgia	--	--	--	3,100	2,410	3,930,000
India	--	--	--	3,420	1,270	4,040,000
Korea, Republic of	400	304	491,000	1,400	1,060	1,640,000
Malaysia	6,350	4,830	8,070,000	26,700	20,300	34,500,000
Mexico	7	5	10,200	110	88	159,000
Norway	2,670	2,070	3,350,000	3,090	2,390	3,870,000
Russia	3,250	2,470	3,340,000	9,520	7,250	9,630,000
Saudi Arabia	20	13	34,000	97	61	165,000
South Africa	3,340	2,560	4,270,000	17,600	13,300	23,600,000
Spain	7,500	5,660	9,420,000	18,700	14,200	22,800,000
Ukraine	411	312	423,000	6,040	4,610	6,040,000
<b>Total</b>	<b>37,600</b>	<b>28,600</b>	<b>47,500,000</b>	<b>126,000</b>	<b>93,900</b>	<b>157,000,000</b>
<b>Grand total</b>	<b>60,500</b>	<b>47,200</b>	<b>86,000,000</b>	<b>193,000</b>	<b>149,000</b>	<b>270,000,000</b>

-- 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 MAY 2018<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	January–May <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	27	12	\$11,000	27	12	\$11,000
Gabon	--	--	--	9,610	4,130	1,910,000
Mexico	--	--	--	1,520	560	367,000
South Africa	29,900	11,100	7,320,000	59,300	21,100	12,400,000
Total	29,900	11,100	7,330,000	70,500	25,800	14,700,000
<b>47% or more manganese:</b>						
Australia	--	--	--	7,510	3,590	3,100,000
Brazil	328	218	160,000	470	290	242,000
China	--	--	--	2	2	4,400
Gabon	48,400	24,800	14,200,000	128,000	65,300	37,300,000
Mexico	209	144	184,000	1,940	1,010	998,000
Morocco	--	--	--	39	22	50,900
South Africa	200	97	87,800	1,270	617	528,000
Turkey	--	--	--	19	15	9,110
Total	49,100	25,200	14,600,000	139,000	70,900	42,200,000
Grand total	79,100	36,300	21,900,000	210,000	96,700	56,900,000

-- 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 MAY 2018<sup>1</sup>

(Metric tons, gross weight)

Source	Quantity	Customs value <sup>3</sup>	January–May <sup>2</sup>	
			Quantity	Customs value <sup>3</sup>
Belgium	--	--	40	\$71,700
Brazil	11	\$18,000	21	36,100
China	--	--	37	82,000
Germany	6	10,700	19	32,100
Japan	360	797,000	2,170	4,820,000
Mexico	--	--	(4)	2,210
Morocco	--	--	19	86,600
Spain	--	--	44	75,000
Ukraine	--	--	23	38,700
Total	377	826,000	2,380	5,250,000

-- 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 MAY 2018<sup>1</sup>

(Metric tons)

Source	Gross weight	Customs value <sup>3</sup>	January–May <sup>2</sup>	
			Gross weight	Customs value <sup>3</sup>
<b>Unwrought flake:</b>				
China	143	\$308,000	2,420	\$3,870,000
Hong Kong	20	41,000	20	41,000
Japan	9	67,000	131	851,000
South Africa	547	1,240,000	1,790	4,050,000
Vietnam	100	221,000	100	221,000
Total	820	1,870,000	4,470	9,040,000
<b>Unwrought powder:</b>				
China	--	--	40	81,600
Mexico	40	134,000	69	231,000
South Africa	79	216,000	581	1,580,000
Total	120	350,000	690	1,890,000
<b>Unwrought, other:</b>				
China	1,460	3,030,000	5,500	10,200,000
Germany	117	250,000	594	1,200,000
South Africa	102	226,000	367	826,000
Spain	--	--	3	4,280
Total	1,680	3,500,000	6,460	12,200,000
<b>Other manganese, wrought:</b>				
China	--	--	7	20,300
France	--	--	(4)	2,150
Germany	51	588,000	143	1,690,000
Japan	(4)	20,600	(4)	142,000
Malaysia	--	--	(4)	3,040
Mexico	--	--	74	203,000
Poland	(4)	2,940	(4)	9,250
Sweden	1	9,960	9	85,600
Total	52	621,000	233	2,160,000
Metallic waste and scrap, Canada	40	13,800	190	59,500
Grand total	2,710	6,360,000	12,000	25,300,000

-- 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 MAY 2018<sup>1,2</sup>

Source	Gross weight (metric tons)	F.a.s. <sup>4</sup> value (thousands)	January–May <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
Canada	44	\$40	137	127
Mexico	--	--	29	32
Netherlands	16	82	87	420
Total	60	122	272	654
<b>Ferromanganese:</b>				
2% or less carbon:				
Canada	60	89	123	188
Honduras	--	--	2	11
Mexico	38	104	38	104
Morocco	--	--	4	8
Taiwan	9	18	10	18
Total	107	211	177	329
More than 2% carbon:				
Australia	--	--	1	4
Canada	796	1,150	1,730	2,480
Costa Rica	--	--	4	18
Germany	1	3	1	3
Mexico	--	--	105	100
Total	797	1,150	1,840	2,610
Silicomanganese, Canada	379	549	1,760	2,520
<b>Metal, including alloys and waste and scrap:<sup>5</sup></b>				
Canada	4	19	12	47
China	--	--	2	32
Costa Rica	(6)	5	1	30
Germany	--	--	(6)	4
Guinea	--	--	1	5
India	101	117	178	139
Japan	20	68	59	196
Korea, Republic of	--	--	(6)	4
Malaysia	100	34	1,160	741
Mexico	53	209	135	761
New Zealand	(6)	3	(6)	3
Singapore	--	--	1	3
South Africa	--	--	197	167
Taiwan	--	--	(6)	3
Venezuela	--	--	7	6
Total	277	455	1,760	2,140
Grand total	1,620	2,490	5,800	8,250

-- Zero.

<sup>1</sup>Presentation of monthly data is based on the "January–May" 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 MAY 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–May <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	4,700	\$3,410	South Africa 3,320; \$1,810	16,800	\$13,200	South Africa 9,190; \$5,600
Manganites, manganates, and other permanganates	--	--	--	20	42	Hong Kong 20; \$42
Potassium permanganate	201	508	India 201; \$508	593	1,540	India 574; \$1,490
Sodium permanganate	96	204	China 96; \$204	596	1,350	China 579; \$1,310
Sulfates, basket category, including manganese sulfate	6,210	4,930	China 2,220; \$2,170	25,300	22,600	China 10,100; \$8,540
<b>Exports:</b>						
Manganese dioxide	567	824	Canada 376; \$278	2,980	4,190	Canada 1,970; \$1,690
Manganese oxides other than dioxide	553	995	United Kingdom 231; \$184	2,780	5,110	United Kingdom 505; \$623
Manganites, manganates, and other permanganates	22	92	Mexico 20; \$88	80	310	Mexico 60; \$269
Potassium permanganate	89	352	Canada 43; \$174	1,380	3,870	Canada 116; \$483
Sodium permanganate	122	379	Belgium 57; \$121	384	1,140	Belgium 133; \$262
Sulfates, basket category, including manganese sulfate	1,610	2,070	Canada 1,260; \$944	8,970	13,600	Canada 6,030; \$4,600

-- 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.

Source: U.S. Census Bureau.