

Mineral Industry Surveys

For information, contact:

Lisa A. Corathers, Manganese Commodity Specialist
 National Minerals Information Center
 U.S. Geological Survey
 989 National Center
 Reston, VA 20192
 Telephone: (703) 648-4973, Fax: (703) 648-7757
 Email: lcorathers@usgs.gov

Hodan A. Fatah (Data)
 Telephone: (703) 648-4971
 Fax: (703) 648-7975
 Email: hfatah@usgs.gov

Internet: <http://minerals.usgs.gov/minerals/>

MANGANESE IN DECEMBER 2016

Preliminary data for December 2016 indicated that domestic consumption of manganese ore containing more than 20% manganese, exclusive of that consumed at iron and steel plants, was 28,200 metric tons (t) (gross weight). This was a 12% decrease compared with the amount consumed in November 2016 (32,000 t). Manganese ore consumption during 2016 was 362,000 t, 20% less than the revised amount consumed during 2015 (450,000 t) (fig. 1). Industry stocks of ore at the end of December 2016 were 160,000 t, 17% more than that at the end of November 2016 (137,000 t).

On a gross-weight basis, U.S. imports of manganese ore in December 2016 were 53,200 t, 371% more than that imported in November 2016 (11,300 t) (fig. 1, table 5). Manganese ore imports were 38% less during 2016 (271,000 t) compared with the revised amount (441,000 t) during 2015.

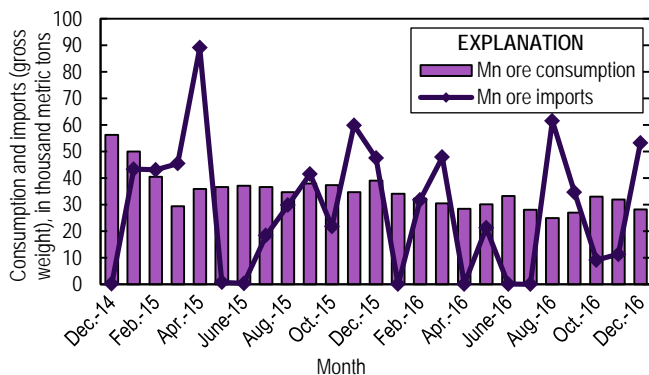


Figure 1. Monthly domestic consumption and imports of manganese (Mn) ore from December 2014 through December 2016. Sources: U.S. Census Bureau and U.S. Geological Survey.

In December 2016, the average monthly spot-market prices for manganese ore deliveries to China continued to increase. The average spot prices were 8.00 dollars per metric ton unit,

36%–39% grade; 8.83 dollars per metric ton unit, 44% grade; and 9.25 dollars per metric ton unit, 46% grade (fig. 2, table 1). These were higher than those in November 2016—8% for the 36%–39% grade, 7% for the 44% grade, and 10% for the 46% grade. They were also significantly higher than those at the beginning of 2016—362% for the 36%–39% grade, 380% for the 44% grade, and 377% for the 46% grade.

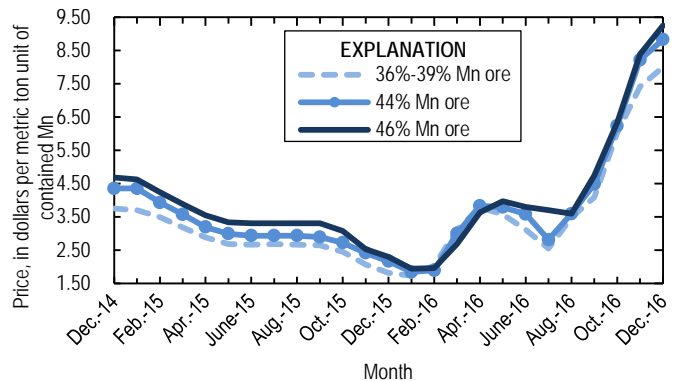


Figure 2. Average monthly spot prices for manganese (Mn) ore delivered to China from December 2014 through December 2016. Source: CRU Ryan's Notes.

List services and Web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <http://minerals.usgs.gov/minerals/>.

TABLE 1
PRICES FOR MANGANESE FERROALLOYS, METAL, AND ORE IN DECEMBER 2016

		Low	Average	High
Manganese ferroalloys: ¹				
High-carbon ferromanganese, 75% manganese	dollars per long ton of contained manganese	1,215.00	1,362.50	1,450.00
Medium-carbon ferromanganese, 85% mangan	cents per pound of contained manganese	90.00	92.00	96.00
Silicomanganese, 65% manganese	do.	61.00	68.25	72.00
Manganese metal, 99.9% manganese flake ²	cents per pound	106.00	123.83	135.00
Manganese ore: ^{3,4}				
36%–39% manganese	dollars per metric ton unit contained manganese	7.90	8.00	8.10
44% manganese	do.	8.65	8.83	9.20
46% manganese	do.	8.95	9.25	9.45

do. Ditto.

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

²CRU 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.

³CRU Ryan's Notes, cost and freight, China; average prices reported for the price range.

⁴To determine dollars per metric ton of ore (gross weight), multiply the manganese content percentage by the price; that is, by 46 when the manganese content is 46%.

TABLE 2
SELECTED U.S. FOREIGN TRADE IN MANGANESE¹

(Metric tons, manganese content)²

	Imports for consumption			Exports		
	Ore and dioxide	Ferroalloy and metal	Total	Ore	Ferroalloy and metal	Total
2015:						
December	24,800 ^r	32,700 ^r	57,500 ^r	49	1,370	1,420
January–December ³	220,000	463,000	683,000	350	10,300	10,600
2016:						
January	252	53,700	53,900	29 ^r	1,970 ^r	2,000 ^r
February	17,200	34,700	51,900	18 ^r	2,350 ^r	2,370 ^r
March	25,700	23,800	49,500	15 ^r	963 ^r	978 ^r
April	292	23,400	23,700	7 ^r	1,040 ^r	1,050 ^r
May	10,800	28,600	39,400	29 ^r	499 ^r	528 ^r
June	324	47,700	48,000	34 ^r	1,060 ^r	1,090 ^r
July	318	30,100	30,400	10 ^r	951 ^r	961 ^r
August	28,100	26,700	54,900	19 ^r	1,060 ^r	1,080 ^r
September	19,100	40,500	59,600	26 ^r	788 ^r	813 ^r
October	3,800	15,100	18,900	43 ^r	396 ^r	440 ^r
November	5,970	30,700	36,600	17 ^r	1,170 ^r	1,180 ^r
December	26,300	21,600	48,000	68	957	1,030
January–December ³	138,000	377,000	515,000	316	13,200	13,500

^rRevised.

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

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

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

Source: U.S. Census Bureau.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN DECEMBER 2016¹

(Metric tons)

Source	Gross weight	Mn content	Customs value ³	January–December ²		
				Gross weight	Mn content	Customs value ³
Australia	920	658	\$6,120,000	51,700	34,300	\$42,700,000
Brazil	--	--	--	7,040	4,690	4,540,000
Gabon	--	--	--	312	221	201,000
Georgia	960	690	662,000	72,500	52,100	54,400,000
India	--	--	--	1,200	726	1,360,000
Mexico	2,400	1,570	1,820,000	27,700	17,800	17,500,000
Norway	20	12	37,900	27,800	16,400	23,600,000
Russia	--	--	--	14	7	20,400
South Africa	14,300	9,480	10,200,000	71,600	47,100	49,700,000
Spain	--	--	--	4,890	3,200	4,050,000
Total	18,600	12,400	18,900,000	265,000	176,000	198,000,000

-- Zero.

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

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

³Customs 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 DECEMBER 2016¹

(Metric tons)

Source	Gross weight	Mn content	Customs value ³	January–December ²		
				Gross weight	Mn content	Customs value ³
Low carbon:						
Belgium	--	--	--	59	56	\$110,000
China	958	891	\$1,530,000	10,400	9,710	16,600,000
Germany	88	84	223,000	762	686	1,800,000
India	--	--	--	566	457	717,000
Japan	7	6	17,400	7	6	17,400
Korea, Republic of	--	--	--	2,350	2,050	3,320,000
Mexico	150	120	167,000	704	566	839,000
Norway	18	15	36,300	27,100	21,900	32,200,000
South Africa	--	--	--	50	46	82,000
Total	1,220	1,120	1,980,000	42,000	35,500	55,700,000
Medium carbon, 1%–2% C:						
Australia	--	--	--	7,850	6,180	6,510,000
Brazil	--	--	--	78	61	81,900
China	--	--	--	160	125	285,000
Germany	--	--	--	8	6	15,400
India	--	--	--	285	230	342,000
Korea, Republic of	--	--	--	29,800	24,200	34,800,000
Mexico	178	135	349,000	8,190	6,530	9,770,000
Norway	15	12	26,900	5,660	4,600	5,930,000
South Africa	20	15	49,000	7,200	5,790	10,200,000
Turkey	--	--	--	79	60	143,000
Total	213	162	425,000	59,300	47,800	68,000,000
Medium carbon, 2%–4% C:						
China	--	--	--	323	254	160,000
South Africa	--	--	--	51	40	160,000
Total	--	--	--	374	294	320,000
High carbon:						
Australia	--	--	--	57,300	41,000	40,000,000
Brazil	77	60	111,000	701	536	776,000
Canada	12	7	12,600	162	111	228,000
China	--	--	--	10	8	14,400
Georgia	--	--	--	5,440	4,110	4,070,000
India	--	--	--	283	214	224,000
Korea, Republic of	--	--	--	3,420	2,310	3,110,000
Norway	--	--	--	9,030	6,520	6,240,000
Russia	--	--	--	1,980	1,310	1,620,000
Singapore	--	--	--	7	6	10,400
South Africa	9,000	6,660	6,810,000	44,000	31,100	33,700,000
Spain	--	--	--	312	238	207,000
Ukraine	--	--	--	11,200	6,550	6,150,000
Total	9,080	6,730	6,930,000	134,000	94,000	96,400,000
Grand total	10,513	8,012	9,335,000	235,675	177,595	220,420,000

-- Zero.

¹Data rounded to no more than three significant digits; may not add to totals shown.

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

³Customs 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 DECEMBER 2016¹

(Metric tons)

Source	Gross weight	Mn content	Customs value ³	January–December ²		
				Gross weight	Mn content	Customs value ³
More than 20%, but less than 47% manganese:						
China	--	--	--	100	31	\$9,440
Gabon	10,500	4,530	\$823,000	10,500	4,530	823,000
Mexico	--	--	--	8,650	3,240	1,280,000
South Africa	4,460	2,050	263,000	37,500	14,400	3,080,000
Total	15,000	6,590	1,090,000	56,800	22,200	5,190,000
47% or more manganese:						
Australia	--	--	--	7,130	3,510	1,200,000
Belgium	--	--	--	37	22	173,000
Brazil	--	--	--	522	290	276,000
Cote d'Ivoire	16	13	19,400	16	13	19,400
Gabon	38,000	19,300	7,220,000	194,000	102,000	31,500,000
Korea, Republic of	--	--	--	351	238	231,000
Mexico	--	--	--	10,900	5,580	1,400,000
Morocco	--	--	--	154	87	202,000
South Africa	240	116	97,400	1,170	568	419,000
Total	38,200	19,400	7,340,000	214,000	113,000	35,500,000
Grand total	53,200	26,000	8,430,000	271,000	135,000	40,700,000

-- Zero.

¹Data rounded to no more than three significant digits; may not add to totals shown.

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

³Customs 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 DECEMBER 2016¹

(Metric tons, gross weight)

Source	Quantity	Customs value ³	January–December ²	
			Quantity	Customs value ³
Belgium	--	--	45	\$111,000
Brazil	18	\$20,100	82	116,000
China	14	24,600	79	141,000
France	--	--	18	33,300
Germany	--	--	10	51,300
India	--	--	92	168,000
Japan	550	1,200,000	5,060	10,900,000
Netherlands	--	--	11	19,400
Singapore	--	--	90	153,000
Ukraine	--	--	28	47,400
United Kingdom	--	--	(4)	2,070
Total	583	1,250,000	5,510	11,700,000

-- Zero.

¹Data rounded to no more than three significant digits; may not add to totals shown.

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

³Customs 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.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE METAL IN DECEMBER 2016¹

(Metric tons)

Source	Gross weight	Customs value ³	January–December ²	
			Gross weight	Customs value ³
Unwrought flake:				
China	97	\$223,000	2,700	\$6,230,000
Gabon	--	--	97	157,000
Japan	39	134,000	451	1,520,000
Mexico	--	--	44	146,000
South Africa	553	1,060,000	6,420	12,200,000
Total	690	1,410,000	9,710	20,300,000
Unwrought powder:				
China	40	70,100	285	587,000
Mexico	--	--	200	653,000
New Zealand	--	--	3	2,500
South Africa	102	261,000	2,200	5,920,000
Total	142	331,000	2,680	7,160,000
Unwrought, other:				
Belgium	--	--	22	40,400
China	157	304,000	7,610	13,900,000
Germany	139	295,000	919	1,700,000
Hong Kong	--	--	243	373,000
Poland	--	--	(4)	8,640
South Africa	42	83,200	565	1,160,000
Spain	--	--	177	374,000
United Kingdom	--	--	38	65,500
Total	339	682,000	9,580	17,600,000
Other manganese, wrought:				
China	(4)	3,610	110	193,000
France	--	--	4	63,700
Germany	19	195,000	183	1,840,000
Japan	--	--	(4)	34,000
Mexico	20	63,900	35	118,000
South Africa	--	--	10	25,200
Taiwan	4	16,800	4	16,800
Total	44	280,000	347	2,290,000
Metallic waste and scrap:				
Canada	37	10,900	522	151,000
China	--	--	(4)	2,040
Total	37	10,900	522	153,000
Grand total	1,250	2,720,000	22,800	47,500,000

-- Zero.

¹Data rounded to no more than three significant digits; may not add to totals shown.

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

³Customs 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.

⁴Less 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 DECEMBER 2016^{1,2}

Source	Gross weight (metric tons)	F.a.s. ⁴ value (thousands)	January–December ³	
			Gross weight (metric tons)	F.a.s. ⁴ value (thousands)
Ore and concentrates with 20% or more manganese:				
Canada	103	\$81	287	\$238
China	--	--	33	32
El Salvador	--	--	2	3
Guatemala	--	--	11	29
Mexico	--	--	18	63
Netherlands	33	145	239	1,020
Poland	--	--	18	12
United Kingdom	--	--	20	17
Other (2 countries)	--	--	3	23
Total	136	227	630	1,440
Ferromanganese:				
2% or less carbon:				
Brazil	--	--	7	14
Canada	145	177	2,150	2,660
Colombia	--	--	2	4
Jamaica	--	--	22	42
Mexico	--	--	104	225
Suriname	--	--	51	96
Vietnam	--	--	6	10
Total	145	177	2,340	3,050
More than 2% carbon:				
Canada	19	17	4,100	3,380
Chile	--	--	20	57
Colombia	--	--	61	171
Singapore	8	23	11	36
United Arab Emirates	--	--	8	23
United Kingdom	7	19	8	23
Other (8 countries)	--	--	37	118
Total	34	60	4,250	3,800
Silicomanganese:				
Canada	349	301	2,270	2,040
Georgia	--	--	85	120
Mexico	--	--	52	119
Other (2 countries)	--	--	5	8
Total	349	301	2,410	2,290
Metal, including alloys and waste and scrap:⁵				
Australia	6	6	10	10
Belgium	5	86	31	243
India	137	232	214	724
Malaysia	413	152	3,800	1,350
Mexico	3	15	838	2,300
Netherlands	9	36	42	168
United Kingdom	8	78	132	761
Other (18 countries)	4	16	1,340	3,730
Total	585	619	6,410	9,290
Grand total	1,250	1,380	16,000	19,900

-- Zero.

¹Presentation of monthly data is based on the "January–December" quantities of the leading countries.

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

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

⁴Free alongside ship.

⁵Includes manganese-aluminum, other alloys, and waste and scrap.

Source: U.S. Census Bureau.

TABLE 9
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS
IN DECEMBER 2016, BY CLASS¹

Class	Gross weight (metric tons)	Value ³ (thousands)	Principal sources and destinations: gross weight (metric tons); value ³ (thousands)	January–December ²		
				Gross weight (metric tons)	Value ³ (thousands)	Principal sources and destinations: gross weight (metric tons); value ³ (thousands)
Imports for consumption:						
Manganese oxides other than dioxide	1,500	\$1,140	Korea, Republic of 434; \$416	19,100	\$13,500	Korea, Republic of 6,310; \$6,740
Manganites, manganates, and other permanganates						
Permanganates	--	--	--	12	47	Canada 10; \$41
Potassium permanganate	93	211	India 75; \$182	736	1,840	India 709; \$1,790
Sodium permanganate	96	219	China 95; \$216	1,160	2,720	China 1,070; \$2,460
Sulfates, basket category, including manganese sulfate	5,690	4,640	China 2,710; \$1,580	58,200	48,900	Mexico 21,400; \$18,500
Exports:						
Manganese dioxide	326	602	Canada 139; \$146	4,130	7,240	Canada 1,860; \$1,510
Manganese oxides other than dioxide	332	656	Poland 62; \$79	5,290	10,500	Canada 927; \$1,250
Manganites, manganates, and other permanganates	4	19	Canada 4; \$8	102	263	Canada 96; \$192
Potassium permanganate	236	683	Belgium 108; \$229	3,200	9,060	Belgium 1,690; \$3,870
Sodium permanganate	101	276	Belgium 57; \$123	804	3,310	Mexico 333; \$955
Sulfates, basket category, including manganese sulfate	1,710	2,600	Canada 968; \$566	21,500	20,500	Canada 16,500; \$7,490

-- Zero.

¹Data are rounded to no more than three significant digits.

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

³For imports, customs value; for exports, free alongside ship value.

Source: U.S. Census Bureau.