

# Mineral Industry Surveys

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## MANGANESE IN DECEMBER 2023

On a gross-weight basis, U.S. imports of manganese ore in December 2023 decreased by 89% to 6,170 metric tons (t) from 57,200 t in November 2023 (fig. 1, table 5). In December 2023, the leading source of manganese ore imports for >20% – <47% grade was Mexico and the sole source for >47% grade was South Africa. Total imports of manganese ore in 2023 were 57% less than those in 2022. The decreased imports in 2023 could possibly be a product of higher consumer stocks carrying over from 2022, which was 42% higher than that from 2021 (Kim, 2024).

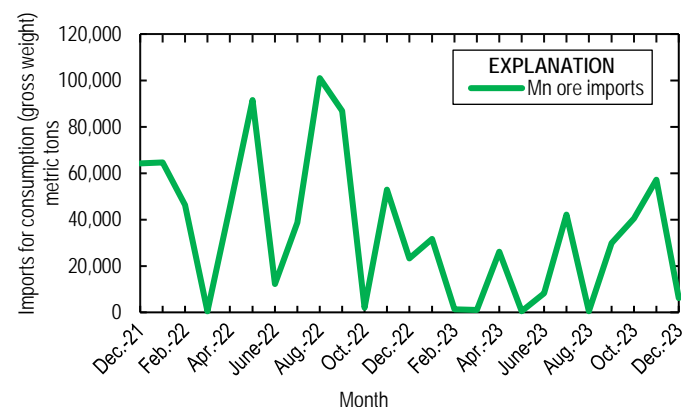


Figure 1. Monthly imports of manganese (Mn) ore from December 2021 through December 2023. Source: U.S. Census Bureau.

## Prices

In December 2023, the average spot prices of manganese ore deliveries to China were \$3.62 per metric ton unit for 36%–38% grade and \$4.16 per metric ton unit for 44% grade, both slightly less than the November 2023 prices (fig. 2, table 1). Compared with the monthly average prices in December 2022, the 36%–38% grade price was 11% less and the 44% grade price was 7% less. Comparing the annual average prices in 2023 with 2022, the 36%–38% grade price was 15% less and the 44% grade price was 19% less.

## Industry News

The U.S. Department of Energy announced new guidance for foreign entity of concern to strengthen domestic supply chains for batteries and electric vehicles (White House, The, 2023). This announcement states that companies with more than 25% ownership by entities based in China, North Korea, Iran, or Russia will not qualify for subsidies under the Inflation Reduction Act or the Infrastructure and Jobs Act. This will likely affect key producers of manganese, including companies operating assets outside the jurisdictions of concern.

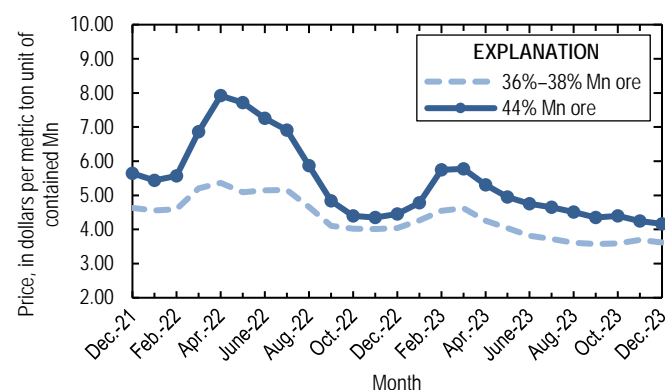


Figure 2. Average monthly spot prices for manganese (Mn) ore delivered to China from December 2021 through December 2023. Source: CRU Group.

## References Cited

- Kim, J., 2024, Manganese, in *Metals and minerals: U.S. Geological Survey Minerals Yearbook 2022*, v. I, tables-only release, accessed February 20, 2024, via <https://www.usgs.gov/centers/national-minerals-information-center/manganese-statistics-and-information>.
- White House, The, 2023, Treasury, DOE release proposed guidance to strengthen domestic supply chains for batteries and electric vehicles, ensure the U.S. leads the clean vehicle future: Washington, D.C., The White House, December 1. (Accessed February 16, 2024, at <https://www.whitehouse.gov/cleanenergy/clean-energy-updates/2023/12/01/treasury-doe-release-proposed-guidance-to-strengthen-domestic-supply-chains-for-batteries-and-electric-vehicles-ensure-the-u-s-leads-the-clean-vehicle-future/>.)

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TABLE 1  
PRICES FOR MANGANESE FERROALLOYS, METAL, AND ORE IN DECEMBER 2023

		Low	Average	High
Manganese ferroalloys: <sup>1</sup>				
High-carbon ferromanganese, 76% manganese	dollars per long ton of contained manganese	1,150.00	1,175.00	1,200.00
Medium-carbon ferromanganese, 85% manganese	cents per pound of contained manganese	110.00	111.00	112.00
Silicomanganese, 65% manganese	do.	55.00	55.50	56.00
Manganese metal, 99.7% manganese flake <sup>2</sup>	cents per pound	110.00	120.75	136.00
Manganese ore: <sup>3,4</sup>				
36%–38% manganese	dollars per metric ton unit contained manganese	3.55	3.62	3.72
44% manganese	do.	4.10	4.16	4.30

do. Ditto.

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

<sup>2</sup>CRU Group United States transaction prices, electrolytic manganese metal flake, 99.7% manganese, ex-works. Average prices are the average of the month high and low range.

<sup>3</sup>CRU Group, cost, insurance, and freight, China. Average prices are the average of the month high and low 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)

	Imports for consumption			Exports		
	Ore and dioxide	Ferroalloy and metal	Total	Ore	Ferroalloy and metal	Total
2022:						
December	23,400	125,000 <sup>r</sup>	149,000	211	585 <sup>r</sup>	795
January–December	570,000 <sup>r</sup>	792,000 <sup>r</sup>	1,360,000	895	9,570 <sup>r</sup>	10,500 <sup>r</sup>
2023:						
January	31,700	85,100	117,000	28	551	579
February	1,500	23,800	25,300	--	824	824
March	1,120	64,500	65,700	109	1,240	1,350
April	26,300	45,400	71,700	300	424	724
May	878	37,500	38,400	83	807	891
June	8,230	44,700	53,000	24	558	582
July	42,800	52,300	95,100	--	394	394
August	890	49,600	50,500	46	569	615
September	30,400	52,200	82,600	509	1,170	1,680
October	40,900	84,800	126,000	105	611	716
November	57,600	35,600	93,200	200	634	834
December	6,470	56,100	62,600	201	1,280	1,480
January–December	249,000	632,000	881,000	1,600	9,060	10,700

<sup>r</sup>Revised. -- Zero.

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

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN DECEMBER 2023<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality <sup>4</sup>	Gross weight	Mn content	Value	January–December <sup>3</sup>		
				Gross weight	Mn content	Value
Australia	--	--	--	50,400	31,800	\$64,700,000
Georgia	258	170	\$290,000	36,800	25,500	44,900,000
India	--	--	--	3,250	1,830	4,950,000
Malaysia	7,340	4,860	6,370,000	30,700	20,500	35,600,000
Mexico	5,110	3,280	5,060,000	39,000	25,000	43,300,000
Norway	900	552	1,390,000	10,900	6,760	18,800,000
South Africa	7,800	5,070	7,250,000	85,800	55,700	93,000,000
Spain	--	--	--	160	104	226,000
Vietnam	--	--	--	50	33	56,000
Zambia	198	130	168,000	498	298	482,000
Other [3 countries and (or) localities]	3	2	3,750	29	18	53,200
Total	21,600	14,100	20,500,000	257,000	168,000	306,000,000

-- Zero.

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

<sup>2</sup>Includes Harmonized Tariff Schedule of the United States code 7202.30.0000.

<sup>3</sup>May include revisions to previously published data.

<sup>4</sup>Presentation of monthly data is based on the January–December quantities (gross weight) of the leading countries.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN DECEMBER 2023<sup>1</sup>

(Metric tons, unless otherwise specified)

Type and country or locality	HTS <sup>3</sup> code	Gross weight	Mn content	Value	January–December <sup>2</sup>		
					Gross weight	Mn content	Value
Low carbon, less than 1% C: <sup>4</sup>	7202.19.1000						
Canada		--	--	--	13	11	\$50,200
India		--	--	--	63	51	93,400
Japan		--	--	--	920	749	1,650,000
Korea, Republic of		1,500	1,380	\$3,330,000	8,790	7,710	20,000,000
Mexico		--	--	--	3,800	3,070	6,780,000
Norway		2,600	2,110	3,590,000	28,700	23,200	48,100,000
South Africa		61	50	82,200	2,360	2,020	6,700,000
Spain		--	--	--	61	50	291,000
Taiwan		--	--	--	3	3	11,500
Vietnam		--	--	--	80	75	187,000
Other [1 country and (or) locality]		--	--	--	1	1	3,620
Total		4,170	3,540	7,000,000	44,800	37,000	83,900,000
Medium carbon, 1%–2% C:	7202.19.5000						
China		--	--	--	3	2	9,310
India		57	45	64,600	489	391	933,000
Korea, Republic of		4,000	3,200	4,930,000	20,000	16,000	29,700,000
Malaysia		--	--	--	2,340	1,730	3,160,000
Mexico		--	--	--	1,500	1,160	3,340,000
Norway		95	75	238,000	27,600	22,400	40,500,000
South Africa		5,200	4,170	7,190,000	21,500	17,200	37,400,000
Thailand		98	86	178,000	228	191	647,000
Total		9,450	7,580	12,600,000	73,600	59,000	116,000,000
Medium carbon, 2%–4% C:	7202.11.1000						
China		--	--	--	27	21	27,700
India		--	--	--	108	82	106,000
Total		--	--	--	135	103	134,000
High carbon, over 4% C: <sup>4</sup>	7202.11.5000						
Australia		108	80	89,600	43,000	32,900	42,200,000
Brazil		--	--	--	433	318	532,000
Canada		17	11	48,200	86	60	242,000
Georgia		--	--	--	324	235	292,000
India		1,820	860	1,660,000	33,700	21,700	34,500,000
Korea, South		1,000	760	1,100,000	5,000	3,800	5,480,000
Malaysia		12,300	9,320	12,700,000	103,000	77,900	122,000,000
South Africa		810	611	908,000	14,500	11,100	22,700,000
United Arab Emirates		--	--	--	151	114	161,000
Zambia		--	--	--	1,480	1,120	1,640,000
Other [5 countries and (or) localities]		69	46	74,100	188	125	444,000
Total		16,200	11,700	16,500,000	202,000	149,000	230,000,000
Grand total		29,800	22,800	36,100,000	320,000	245,000	430,000,000

-- Zero.

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

<sup>2</sup>May include revisions to previously published data.

<sup>3</sup>Harmonized Tariff Schedule of the United States.

<sup>4</sup>Presentation of monthly data is based on the January–December quantities (gross weight) of the leading countries.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE ORE (20% OR MORE Mn)  
IN DECEMBER 2023<sup>1</sup>

(Metric tons, unless otherwise specified)

Type and country or locality	HTS <sup>3</sup> code	Gross weight	Mn content	Value	January–December <sup>2</sup>		
					Gross weight	Mn content	Value
More than 20%, but less than 47% manganese:	2602.00.0040						
Belgium		--	--	--	116	46	\$53,500
China		--	--	--	84	39	5,760
Malta		--	--	--	6	3	3,280
Mexico		5,490	2,110	\$622,000	14,300	5,470	1,890,000
South Africa		600	257	155,000	3,740	1,650	1,090,000
Total		6,090	2,370	777,000	18,200	7,210	3,050,000
47% or more manganese:	2602.00.0060						
Brazil		--	--	--	155	75	243,000
China		--	--	--	(4)	(4)	15,100
France		--	--	--	17	8	25,200
Gabon		--	--	--	224,000	126,000	50,600,000
India		--	--	--	202	98	239,000
Mexico		--	--	--	700	456	573,000
South Africa		75	51	23,700	1,860	961	461,000
Total		75	51	23,700	227,000	127,000	52,100,000
Grand total		6,170	2,420	800,000	245,000	135,000	55,200,000

-- Zero.

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

<sup>2</sup>May include revisions to previously published data.

<sup>3</sup>Harmonized Tariff Schedule of the United States.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE  
IN DECEMBER 2023<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country or locality <sup>4</sup>	Gross weight	Value	January–December <sup>3</sup>	
			Gross weight	Value
Belgium	--	--	83	\$142,000
Brazil	--	--	290	380,000
China	48	\$81,000	49	84,100
Colombia	113	266,000	998	2,390,000
Germany	(5)	3,160	28	70,200
Greece	99	252,000	1,490	3,980,000
Japan	21	45,900	407	930,000
Mexico	--	--	37	62,200
Morocco	19	24,700	19	24,700
Spain	--	--	58	98,400
Other [3 countries and (or) localities]	--	--	42	80,700
Total	300	672,000	3,500	8,240,000

-- Zero.

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

<sup>2</sup>Includes Harmonized Tariff Schedule of the United States code 2820.10.0000.

<sup>3</sup>May include revisions to previously published data.

<sup>4</sup>Presentation of monthly data is based on the January–December quantities (gross weight) of the leading countries.

<sup>5</sup>Less than ½ unit.

Source: U.S. Census Bureau.



TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE METAL  
IN DECEMBER 2023<sup>1</sup>

(Metric tons, unless otherwise specified)

Type and country or locality	HTS <sup>3</sup> code	Gross weight	Value	January–December <sup>2</sup>	
				Gross weight	Value
Unwrought flake:	8111.00.4700				
China		776	\$1,410,000	12,300	\$27,200,000
Indonesia		180	299,000	1,990	3,740,000
Japan		(4)	261,000	68	5,020,000
Mexico		5	26,100	110	647,000
South Africa		399	1,120,000	4,970	18,200,000
Total		1,360	3,110,000	19,500	54,800,000
Unwrought powder:	8111.00.4910				
China		--	--	99	197,000
Mexico		--	--	1	5,440
South Africa		62	168,000	1,290	6,470,000
Total		62	168,000	1,390	6,670,000
Unwrought, other:	8111.00.4990				
Belgium		20	64,100	44	148,000
Canada		--	--	40	137,000
China		2,870	5,320,000	31,100	70,800,000
Germany		46	116,000	197	490,000
Indonesia		--	--	108	228,000
Poland		--	--	(4)	3,200
South Africa		341	566,000	1,260	3,850,000
Total		3,270	6,070,000	32,800	75,700,000
Other manganese, wrought:	8111.00.6000				
Canada		--	--	2	27,800
China		1	3,600	7	68,300
Germany		--	--	(4)	26,500
India		--	--	1	37,900
Japan		--	--	3	81,900
Mexico		27	91,800	198	1,040,000
Sweden		--	--	30	545,000
United Kingdom		--	--	(4)	2,080
Total		28	95,400	242	1,830,000
Metallic waste and scrap:	8111.00.3000				
Canada		31	13,600	206	135,000
China		--	--	20	46,400
Total		31	13,600	226	181,000
Grand total		4,760	9,460,000	54,100	139,000,000

-- Zero.

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

<sup>2</sup>May include revisions to previously published data.

<sup>3</sup>Harmonized Tariff Schedule of 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 DECEMBER 2023<sup>1</sup>

(Metric tons, unless otherwise specified)

Type and country or locality	Schedule B code	Gross weight	Value	January–December <sup>2</sup>	
				Gross weight	Value
Ore and concentrates with 20% or more manganese:	2602.00.0000				
Canada		120	\$170,000	931	\$462,000
Guyana		--	--	170	101,000
Ireland		--	--	5	28,500
Korea, Republic of		81	38,000	313	678,000
Mexico		--	--	178	100,000
Sweden		--	--	7	3,500
Total		201	208,000	1,600	1,370,000
Ferromanganese:	7202.19.0000				
2% or less carbon:					
Australia		--	--	1	2,670
Canada		354	593,000	1,390	2,880,000
France		9	16,200	15	28,600
Mexico		--	--	23	31,200
United Kingdom		--	--	4	7,270
Total		362	609,000	1,430	2,950,000
More than 2% carbon:	7202.11.0000				
Australia		--	--	9	25,000
Canada		38	82,800	541	1,370,000
China		1	9,620	19	61,100
Guyana		--	--	11	31,600
Japan		--	--	1	8,460
Mexico		--	--	2	8,720
Poland		--	--	1	17,000
Slovenia		(3)	2,720	3	27,200
Total		39	95,100	587	1,550,000
Ferrosilicon manganese:	7202.30.0000				
Canada		648	801,000	3,610	4,960,000
Italy		--	--	8	10,900
Mexico		--	--	19	29,900
Total		648	801,000	3,630	5,000,000
Metal, including alloys and waste and scrap: <sup>4, 5</sup>	8111.00.0000				
Brazil		--	--	38	14,200
Canada		--	--	229	962,000
China		--	--	152	1,510,000
Costa Rica		84	31,000	221	119,000
France		(3)	11,000	42	255,000
Germany		--	--	32	139,000
India		45	198,000	434	519,000
Japan		--	--	125	721,000
Malaysia		98	51,500	2,360	1,750,000
Mexico		36	13,500	303	768,000
Other [12 countries and (or) localities]		4	142,000	56	842,000
Total		267	447,000	4,000	7,600,000
Grand total		1,520	2,160,000	11,200	18,500,000

-- Zero.

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

<sup>2</sup>May include revisions to previously published data.

<sup>3</sup>Less than ½ unit.

<sup>4</sup>Presentation of monthly data is based on the January–December quantities (gross weight) of the leading countries.

<sup>5</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 DECEMBER 2023<sup>1</sup>

Compound	HTS <sup>3</sup> or Schedule B code <sup>4</sup>	Gross weight (metric tons)	Value (thousands)	Principal sources and destinations: gross weight (metric tons); value (thousands)	January–December <sup>2</sup>		
					Gross weight (metric tons)	Value (thousands)	Principal sources and destinations: gross weight (metric tons); value (thousands)
Imports for consumption:							
Manganese dioxide	2820.10.0000	300	\$672	Colombia 113; \$266.	3,500	\$8,240	Greece 1,490; \$3,980.
Manganese oxides other than dioxide	2820.90.0000	1,690	1,560	India 380; \$442.	20,100	14,400	South Africa 6,710; \$3,340.
Manganites, manganates, and other permanganates	2841.69.0090	--	--	XX.	6	45	China (all).
Potassium permanganate	2841.61.0000	90	245	India (all).	3,430	11,100	India 3,360; \$10,900.
Sodium permanganate	2841.69.0010	207	457	India 131; \$313.	5,320	14,500	China 3,010; \$7,680.
Other sulfates, including manganese sulfate	2833.29.5100	4,940	3,960	Mexico 2,060; \$2,000.	48,900	49,800	Mexico 18,400; \$18,700.
Exports:							
Manganese dioxide	2820.10.0000	562	923	Canada 302; \$235.	7,480	8,400	Canada 4,510; \$3,530.
Manganese oxides other than dioxide	2820.90.0000	1,120	1,760	United Arab Emirates 475; \$679.	6,590	13,400	United Arab Emirates 2,300; \$3,290.
Manganites, manganates, and other permanganates	2841.69.0090	21	57	Canada (all).	291	787	Canada 257; \$584.
Potassium permanganate	2841.61.0000	191	702	Belgium 72; \$240.	1,190	4,810	Belgium 392; \$1,320.
Sodium permanganate	2841.69.0010	1	7	Hong Kong (all).	275	885	Belgium 267; \$743.
Other sulfates, including manganese sulfate	2833.29.9100	829	2,200	Canada 429; \$465.	19,100	31,700	Canada 13,300; \$10,700.

XX Not applicable. -- Zero.

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

<sup>2</sup>May include revisions to previously published data.

<sup>3</sup>Harmonized Tariff Schedule of the United States.

<sup>4</sup>Imports for consumption are represented by HTS codes. Exports are represented by Schedule B codes.

<sup>5</sup>Less than ½ unit.

Source: U.S. Census Bureau.