

# Mineral Industry Surveys

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# **MANGANESE IN SEPTEMBER 2012**

Preliminary domestic data (gross weight) for September 2012 indicated that consumption of manganese ore containing 35% or more manganese, exclusive of that consumed at iron and steel plants, was 40,800 metric tons (t). This was a 10% decrease from the revised amount consumed in August 2012 (45,200 t). Manganese ore consumption during the first 9 months of 2012 was 393,000 t (includes revisions to previously published data), which was slightly less than the revised amount that was consumed during the same period in 2011 (402,000 t). Industry stocks of ore at the end of September 2012 were 234,000 t, which was a 7% increase from those at the end of August 2012.

Included in this Mineral Industry Surveys are U.S. spot market prices and U.S. foreign trade data for selected manganese-containing materials in September 2012.

# TABLE 1 PRICES FOR MANGANESE FERROALLOYS, METAL, AND ORE IN SEPTEMBER 2012

		High	Low	Average	Average low, mid, and high
Manganese ferroalloys: <sup>1</sup>					
High-carbon ferromanganese, 75% manganese	dollars per long ton of contained manganese	1,220.00	1,190.00	1,207.50	XX
Medium-carbon ferromanganese, 85% manganese	cents per pound of contained manganese	91.00	89.00	90.25	XX
Silicomanganese, 65% manganese	do.	62.00	60.00	61.25	XX
Manganese metal, 99.9% manganese flake <sup>2</sup>	cents per pound	150.00	137.00	XX	142.38-144.69-147.00
Manganese ore: <sup>3, 4</sup>					
36%-39% manganese	dollars per metric ton unit contained manganese	4.55	4.45	XX	4.45-4.50-4.55
44% manganese	do.	5.10	4.85	XX	4.85-4.98-5.10
46% manganese	do.	5.15	4.90	XX	4.90-5.03-5.15

do. Ditto. XX Not applicable.

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

 $^{2}$ 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>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 46 when the manganese content is 46%.

# TABLE 2 SELECTED U.S. FOREIGN TRADE IN MANGANESE<sup>1</sup>

	Imports	for consumpti	on		Exports	
	Ore and	Ferroalloy			Ferroalloy	
	dioxide	and metal	Total	Ore	and metal	Total
2011:						
January-December	283,000	541,000	824,000	681	12,500	13,200
January-September	215,000	455,000	670,000	456	9,710	10,200
January	28,900	44,500	73,400	36	1,080	1,120
February	9,160	30,400	39,600	46	1,240	1,290
March	50,900	68,900	120,000	73	1,740	1,810
April	1,720	27,800	29,500	61	1,150	1,210
May	21,100	51,000	72,100	33	1,800	1,830
June	26,800	68,700	95,500	59	519	578
July	11,500	57,400	69,000	82	669	750
August	25,500	50,600	76,100	65	902	967
September	38,800	55,800	94,600		611	611
2012:						
January	11,800	53,000	64,800	36	603	639
February	12,400	34,900	47,300	158	616	775
March	24,500	54,000	78,400	352	848	1,200
April	3,960	59,500	63,400	106	816	922
May	15,500	49,500	65,000	42	620	662
June	30,100 r	21,000	51,900 r	19	576	595
July	19,900	77,300	97,300	57	687	744
August	8,020	59,900	67,900	12	1,360	1,370
September	44,600	59,100	104,000	27	1,490	1,510
January-September	171,000	468,000	640,000	809	7,610	8,420

## (Metric tons, manganese content)<sup>2</sup>

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

<sup>1</sup>Data 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.

# U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN SEPTEMBER 2012<sup>1</sup>

## (Metric tons)

				Ja	nuary–Septe	ember
	Gross	Mn	Customs	Gross	Mn	Customs
Source	weight	content	value <sup>2</sup>	weight	content	value <sup>2</sup>
Australia				9,570	6,490	\$9,880,000
Azerbaijan				1,500	984	1,700,000
Canada				50	34	39,000
Georgia	11,500	7,980	\$12,400,000	97,700	66,500	105,000,000
Germany				216	95	281,000
India				2,560	1,460	4,050,000
Indonesia				602	393	786,000
Italy				1,270	843	1,740,000
Korea, Republic of	500	325	545,000	1,120	697	1,620,000
Macedonia				6,110	3,970	8,530,000
Mexico	2,500	1,630	3,030,000	18,300	11,900	21,600,000
Norway	3,650	2,270	6,090,000	25,900	16,100	44,600,000
Russia				6,200	4,210	8,380,000
South Africa	12,900	8,900	16,100,000	91,200	60,800	109,000,000
Spain				14,300	9,340	19,000,000
Vietnam				592	370	674,000
Total	31,100	21,100	38,200,000	277,000	184,000	337,000,000

-- Zero.

<sup>1</sup>Data rounded to no more than three significant digits; may not add to totals shown. <sup>2</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.

# TABLE 4 U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN SEPTEMBER $2012^1$

#### (Metric tons)

				]	January-September		
	Gross	Mn	Customs	Gross	Mn	Customs	
Source	weight	content	value <sup>2</sup>	weight	content	value <sup>2</sup>	
Low carbon:							
China	484	456	\$1,170,000	5,750	5,380	\$15,900,000	
India	605	480	960,000	6,170	5,000	10,400,000	
Korea, Republic of				2,040	1,850	5,440,000	
Mexico	1,020	821	1,750,000	6,340	5,110	10,900,000	
Norway	1,200	976	1,970,000	7,340	5,930	11,900,000	
South Africa				120	110	330,000	
Vietnam				1,040	899	2,040,000	
Total	3,310	2,730	5,860,000	28,800	24,300	57,000,000	
Medium carbon, 1%–2% C:							
China				40	30	97,300	
Korea, Republic of				20,400	16,500	30,100,000	
Mexico	180	137	369,000	1,780	1,350	3,640,000	
Norway				14,600	11,900	20,100,000	
South Africa	5,340	4,260	7,870,000	23,300	18,700	34,900,000	
Turkey				19	14	63,300	
Total	5,520	4,390	8,240,000	60,200	48,400	88,800,000	
Medium carbon, 2%–4% C:							
Germany				11	9	31,100	
South Africa	18	15	41,200	129	109	303,000	
Total	18	15	41,200	140	118	334,000	
High carbon:							
Australia				26,800	20,900	26,300,000	
Bahrain	2	1	3,450	102	81	145,000	
Brazil				219	163	228,000	
Canada				12	9	26,000	
China				481	379	547,000	
France				2,500	1,910	3,000,000	
India				513	387	496,000	
Korea, Republic of				3,430	2,650	3,300,000	
Norway	1,820	1,420	1,780,000	11,700	9,120	11,800,000	
Saudi Arabia				1,400	1,010	1,180,000	
South Africa	22,800	17,500	24,300,000	144,000	110,000	153,000,000	
Spain	50	38	57,600	125	95	141,000	
Ukraine	11,600	9,080	13,500,000	37,600	28,700	42,200,000	
Total	36,300	28,100	39,600,000	229,000	176,000	242,000,000	
Grand total	45,100	35,200	53,700,000	318,000	249,000	388,000,000	
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-- Zero.

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

<sup>2</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.

# U.S. IMPORTS FOR CONSUMPTION OF MANGANESE ORE (20% OR MORE Mn) IN SEPTEMBER 2012<sup>1, 2</sup>

(Metric tons)

				Janu	January–September <sup>3</sup>		
	Gross	Mn	Customs	Gross	Mn	Customs	
Source	weight	content	value <sup>4</sup>	weight	content	value <sup>4</sup>	
More than 20%, but less than 47% manganese:							
Brazil				2,580	682	\$669,000	
Colombia				18	5	4,170	
Gabon				26,500	11,400	3,380,000	
Mexico	1,540	553	\$302,000	4,580	1,650	904,000	
South Africa	42,000	16,500	6,650,000	71,700	28,300	10,300,000	
Total	43,500	17,000	6,950,000	105,000	42,000	15,300,000	
47% or more manganese:							
Australia				20,700	10,300	3,120,000	
Belgium	1,380	689	82,700	5,600	2,820	446,000	
Brazil	52	26	17,800	2,900	1,550	1,040,000	
Canada	1	1	4,760	1	1	4,760	
China	19	18	88,800	19	18	88,800	
Gabon	48,000	25,400	10,900,000	197,000	101,000	45,900,000	
Japan				(5)	(5)	14,800	
Korea, Republic of				20	(5)	137,000	
Morocco	851	425	51,100	4,430	2,240	487,000	
Poland				7	3	5,760	
South Africa	60	29	31,700	120	58	46,100	
Turkey	52	24	16,900	52	24	16,900	
United Kingdom				1	(5)	2,990	
Total	50,400	26,600	11,200,000	231,000	118,000	51,300,000	
Grand total	93,900	43,600	18,100,000	336,000	160,000	66,500,000	

-- Zero.

<sup>1</sup>Quantities for general imports and imports for consumption are identical.

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

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

<sup>4</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>5</sup>Less than <sup>1</sup>/<sub>2</sub> unit.

# U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE IN SEPTEMBER $2012^1$

		January–S	September	
	Customs		Customs	
Quantity	value <sup>2</sup>	Quantity	value <sup>2</sup>	
		670	\$385,000	
19	\$21,800	19	21,800	
12	20,100	83	141,000	
		25	20,500	
592	1,400,000	6,150	14,700,000	
		13	25,200	
		40	35,100	
		260	197,000	
		114	194,000	
953	2,230,000	9,370	21,700,000	
		810	425,000	
(3)	3,840	(3)	3,840	
1,580	3,680,000	17,600	37,800,000	
		Quantity         value <sup>2</sup> 19         \$21,800                   12         20,100               592         1,400,000   953         2,230,000               (3)         3,840	$\begin{tabular}{ c c c c c } \hline Quantity & value^2 & Quantity \\ \hline & & & & & & & & & & & & & & & & & &$	

## (Metric tons, gross weight)

-- Zero.

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

<sup>2</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>3</sup>Less than ½ unit.

## U.S. IMPORTS FOR CONSUMPTION OF MANGANESE METAL IN SEPTEMBER $2012^1$

## (Metric tons)

			January-	-September
	Gross	Customs	Gross	Customs
Source	weight	value <sup>2</sup>	weight	value <sup>2</sup>
Unwrought flake:				
Brazil			21	\$61,400
China	733	\$1,840,000	10,400	28,600,000
Hong Kong			60	160,000
Japan			5	17,800
Mexico	36	111,000	143	619,000
South Africa	876	2,900,000	5,580	18,700,000
Taiwan			60	160,000
Vietnam			307	867,000
Total	1,650	4,850,000	16,600	49,100,000
Unwrought powder:				
China			258	741,000
Mexico			53	252,000
South Africa	259	1,060,000	1,730	7,090,000
Spain			1	2,220
Total	259	1,060,000	2,040	8,090,000
Unwrought, other:				
China	677	1,840,000	15,100	40,500,000
Germany			24	79,500
Netherlands	1	3,690	1	3,690
Poland			-3	7,200
South Africa	76	306,000	477	1,820,000
Spain	94	275,000	757	2,690,000
Vietnam			100	286,000
Total	848	2,430,000	16,400	45,400,000
Other manganese, wrought:				
China	28	124,000	31	141,000
Finland			-3	20,100
Germany			1	71,900
Japan			-3	80,300
Mexico			10	45,800
Total	28	124,000	43	360,000
Grand total	2,780	8,460,000	35,100	103,000,000

-- Zero.

<sup>1</sup>Data rounded to no more than three significant digits; may not add to totals shown. <sup>2</sup>Customs value generally represent 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>3</sup>Less than <sup>1</sup>/<sub>2</sub> unit.

Note: Imports for consumption of metallic waste and scrap totaled 70 metric tons (t), all of which was from Canada, to give a January–September total of 676 t.

# U.S. EXPORTS OF MANGANESE ORE (20% OR MORE Mn), FERROMANGANESE, SILICOMANGANESE, AND MANGANESE METAL BY COUNTRIES OF DESTINATION IN SEPTEMBER 2012<sup>1, 2</sup>

			January-S	January–September		
Source	Gross weight (metric tons)	F.a.s. <sup>3</sup> value (thousands)	Gross weight (metric tons)	F.a.s. <sup>3</sup> value (thousands)		
Ore and concentrates with 20% or more manganese:		(**********	(	(*******		
Aruba			78	\$20		
Canada			305	344		
China			51	66		
Denmark			77	32		
Hong Kong			11	39		
Indonesia			3	3		
Korea, Republic of			272	351		
Latvia			19	11		
Netherlands	53	\$184	775	889		
United Kingdom			21	28		
Other (3 countries)	1	3	5	18		
Total	54	187	1,620	1,800		
Ferromanganese:			,	, , ,		
2% or less carbon:						
Canada	101	129	935	1,320		
Guatemala			23	43		
Hungary			3	5		
Japan	20	41	180	419		
Mexico			108	195		
Saudi Arabia			25	55		
Spain			20	48		
Turkey			119	301		
Total	121	170	1,410	2,390		
More than 2% carbon:		110	1,110	2,070		
Brazil	5	14	33	93		
Cameroon			8	26		
Canada	103	116	662	832		
Chile			33	93		
China	61	38	61	38		
Malaysia	383	192	1,020	622		
Mexico			66	94		
Norway			7	22		
Saudi Arabia			, 11	31		
Singapore	2	4	30	83		
Other (5 countries)	2	3	14	36		
Total	556	367	1,940	1,970		
Silicomanganese:	550	307	1,940	1,970		
Brazil	59	143	273	665		
Canada	892	1,170	3,740	5,070		
Dominican Republic		1,170	9	21		
Indonesia			10	16		
Mexico			362	514		
Total	930	1,310	4,390	6,290		
Metal, including alloys and waste and scrap: <sup>4</sup>		20	<i>c</i> .7	100		
Brazil		30	57	180		
Canada	14	34	132	342		
China	50	109	766	2,330		
France	66	298	128	576		
Germany	57	124	136	295		
India			178	405		
Japan			98	266		
Mexico	8	20	240	691		
Norway	66	298	128	576		
Taiwan	21	45	59	125		
Other (13 countries)						
	24	52	139	298		
Total Grand total	24 326 2,010	52 1,010 3,050	139 2,060 11,400	298 6,080 18,500		

See footnotes at end of table.

#### TABLE 8—Continued

# U.S. EXPORTS OF MANGANESE ORE (20% OR MORE Mn), FERROMANGANESE, SILICOMANGANESE, AND MANGANESE METAL BY COUNTRIES OF DESTINATION IN SEPTEMBER 2012<sup>1,2</sup>

## -- Zero.

<sup>1</sup>Presentation of monthly data is based on the year-to-date quantities (gross weight) 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>Free alongside ship.

<sup>4</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 2012, BY CLASS<sup>1</sup>

					January–	September
			Principal sources and destinations:			Principal sources and destinations:
	Gross weight	Value <sup>2</sup>	gross weight (metric tons);	Gross weight	Value <sup>2</sup>	gross weight (metric tons)
Class	(metric tons)	(thousands)	value <sup>2</sup> (thousands)	(metric tons)	(thousands)	value <sup>2</sup> (thousands)
Imports for consumption:						
Manganese oxides other than dioxide	605	\$457	South Africa 513; \$363	4,210	\$4,120	South Africa 1,670; \$1,410
Manganites, manganates, and						
other permanganates			XX	79	482	China 53; \$134
Potassium permanganate	145	442	India 145; \$440	1,180	3,730	India 1,120; \$3,520
Sodium permanganate	122	265	China 122; \$265	320	764	China 319; \$751
Sulfates, basket category,						
including manganese sulfate	4,780	5,290	China 2,320; \$2,870	40,600	40,600	Mexico 13,700; \$12,000
Exports:						
Manganese dioxide	847	1,870	Canada 410; \$388	7,060	12,600	Canada 3,950 \$3,310
Manganese oxides other than dioxide	595	858	Norway 171; \$209	7,080	10,900	Canada 1,800; \$2,120
Manganites, manganates, and						
other permanganates	5	32	Mexico 3; \$26	167	494	Canada 145; \$379
Potassium permanganate	63	243	Canada 39; \$109	2,420	6,390	Belgium 1,640; \$3,840
Sodium permanganate	39	115	Japan 26; \$79	806	1,890	Belgium 338; \$654
Sulfates, basket category,						
including manganese sulfate	1,430	1,300	Canada 1,110; \$726	12,100	10,200	Canada 9,840; \$5,530
XX Not applicable Zero	,	,			,	

XX Not applicable. -- Zero.

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

<sup>2</sup>For imports, Customs value; for exports, free alongside ship value.