

# Mineral Industry Surveys

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## SILICON IN MARCH 2009

Preliminary data for March 2009 indicate that domestic production and net shipments of silicon ferroalloys, on a gross-weight basis, were slightly lower compared with those in February 2009, according to the U.S. Geological Survey. Ending stocks were 6% higher than those at the end of February. Stocks included adjustments in inventory and in-plant consumption of ferrosilicon to produce magnesium ferrosilicon and other miscellaneous alloys.

Production and net shipments of silicon ferroalloys during the first quarter of 2009 each decreased by 8% compared with those during the fourth quarter of 2008. Production and net shipments of silicon alloys during the first quarter of 2009 decreased by 13% and 10%, respectively, compared with those during the first quarter of 2008. Production-related statistics for silicon metal were concealed to avoid disclosing company proprietary data.

On a gross-weight basis, U.S. ferrosilicon and silicon metal exports in February 2009 were 6% higher and 17% lower, respectively, than those in January 2009. U.S. ferrosilicon and silicon metal exports in the first 2 months of 2009 were 8% higher and 25% lower respectively, than those during the same period in 2008.

On a gross-weight basis, U.S. ferrosilicon and silicon metal imports in February 2009 were 16% lower and 29% higher, respectively, than those in January 2009. U.S. ferrosilicon and silicon metal imports in the first 2 months of 2009 were 57% and 53% lower, respectively, than those during the same period in 2008.

### Prices

Prices for silicon materials in March 2009, in cents per pound, silicon content, are listed below.

### 50% Ferrosilicon prices<sup>1</sup>

<u>Price Range</u>	<u>Average Low, Mid, and High Prices</u>
65.00-80.00	67.67-70.61-73.56

### 75% Ferrosilicon prices<sup>2</sup>

<u>Price Range</u>	<u>Average Price</u>
58.00-67.00	62.13

### Silicon metal prices<sup>2</sup>

<u>Price Range</u>	<u>Average Price</u>
117.00-125.00	121.75

<sup>1</sup>Source: Ryan's Notes, North American transaction price. Average prices reported for the price range.

<sup>2</sup>Source: Platts Metals Week, dealer import price. Average price reported for all transactions during the month.

TABLE 1  
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL IN 2009<sup>1, 2, 3</sup>

(Metric tons)

Material	Gross production <sup>4</sup>		Net shipments		Stocks,
	March	Year to date	March	Year to date	March 31
Ferrosilicon, all grades <sup>5, 6</sup>	19,700	61,000	16,300	50,600	25,300
Silicon metal, excludes semiconductor grades	W	W	W	W	W

W Withheld to avoid disclosing company proprietary data.

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

<sup>2</sup>Includes U.S. Geological Survey estimates.

<sup>3</sup>Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

<sup>4</sup>Includes in-plant consumption, as in production of magnesium ferrosilicon and other miscellaneous alloys.

<sup>5</sup>Ferrosilicon categories were aggregated to avoid disclosing company proprietary data.

<sup>6</sup>Includes miscellaneous silicon alloys and other silicon products.

TABLE 2  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN FEBRUARY 2009<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
<b>More than 55% silicon:</b>						
Argentina	4	3	\$12,000	4	3	\$12,000
Canada	234	140	316,000	494	297	626,000
Colombia	19	18	56,000	27	24	77,000
Mexico	463	358	596,000	682	513	909,000
Netherlands	3	2	3,270	3	2	3,270
Total	723	521	984,000	1,210	839	1,630,000
<b>Other ferrosilicon:</b>						
Australia	--	--	--	40	20	80,900
Canada	151	76	235,000	337	169	446,000
Colombia	--	--	--	11	5	23,800
Egypt	--	--	--	60	28	126,000
Germany	51	25	84,800	51	25	84,800
India	--	--	--	9	4	14,000
Mexico	63	31	142,000	210	95	391,000
Taiwan	--	--	--	1	(3)	7,400
United Kingdom	5	2	7,910	5	2	7,910
Total	270	135	470,000	723	349	1,180,000
Total ferrosilicon	993	656	1,450,000	1,930	1,190	2,810,000

See footnotes at end of table.

TABLE 2--Continued  
 U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN FEBRUARY 2009<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
<b>Metal:</b>						
<b>More than 99.99% silicon:</b>						
Canada	1	XX	\$54,000	2	XX	\$160,000
China	458	XX	32,000,000	819	XX	54,400,000
Denmark	15	XX	2,740,000	21	XX	3,840,000
Germany	348	XX	17,500,000	664	XX	36,000,000
Hong Kong	13	XX	2,130,000	18	XX	3,130,000
Japan	704	XX	46,500,000	1,810	XX	128,000,000
Korea, Republic of	114	XX	8,500,000	327	XX	25,800,000
Malaysia	5	XX	945,000	7	XX	1,530,000
Norway	416	XX	26,600,000	816	XX	50,300,000
Taiwan	84	XX	5,440,000	129	XX	8,300,000
Other (21 countries)	35	XX	2,380,000	79	XX	5,790,000
<b>Total</b>	<b>2,190</b>	<b>2,190<sup>e</sup></b>	<b>145,000,000</b>	<b>4,690</b>	<b>4,690<sup>e</sup></b>	<b>317,000,000</b>
<b>99.00% - 99.99% silicon:</b>						
Australia	9	9	13,100	9	9	13,100
Belgium	--	--	--	148	147	436,000
Costa Rica	--	--	--	1	1	5,700
Dominican Republic	1	1	6,900	1	1	6,900
Germany	20	20	28,800	41	41	57,900
Mexico	--	--	--	5	5	6,680
Peru	5	5	7,560	5	5	7,560
Poland	--	--	--	3	3	3,600
Singapore	15	15	44,000	15	15	44,000
Spain	--	--	--	6	6	9,000
Taiwan	--	--	--	8	8	11,600
<b>Total</b>	<b>51</b>	<b>51</b>	<b>100,000</b>	<b>243</b>	<b>241</b>	<b>602,000</b>
<b>Other silicon:</b>						
Belgium	1	1	8,170	1	1	8,170
Brazil	7	7	9,850	16	15	20,600
Canada	6	5	8,890	41	40	49,000
China	6	6	7,760	9	9	20,000
El Salvador	--	--	--	4	4	3,410
Germany	2	2	3,000	2	2	3,000
Japan	46	45	60,800	91	88	120,000
Philippines	--	--	--	(3)	(3)	6,740
South Africa	--	--	--	32	31	41,700
Taiwan	36	35	91,500	47	46	110,000
United Kingdom	--	--	--	2	2	9,910
<b>Total</b>	<b>104</b>	<b>101</b>	<b>190,000</b>	<b>245</b>	<b>238</b>	<b>392,000</b>
<b>Total silicon metal</b>	<b>2,350</b>	<b>2,350</b>	<b>145,000,000</b>	<b>5,180</b>	<b>5,170</b>	<b>318,000,000</b>

<sup>e</sup>Estimated. XX Not applicable. -- Zero.

<sup>1</sup>Countries listed are the leading exporters in terms of year-to-date quantities (gross weight).

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

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN FEBRUARY 2009<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
55% - 80% silicon, more than 3% Ca:						
Argentina	40	24	\$162,000	40	24	\$162,000
China	178	128	214,000	419	306	470,000
France	36	22	142,000	90	55	352,000
<b>Total</b>	<b>254</b>	<b>174</b>	<b>519,000</b>	<b>549</b>	<b>385</b>	<b>984,000</b>
55% - 80% silicon, other:						
Brazil	48	32	93,200	48	32	93,200
Canada	677	504	1,430,000	1,270	944	2,640,000
China	664	501	828,000	3,350	2,540	3,670,000
France	126	86	339,000	467	322	1,330,000
Germany	17	12	88,500	51	36	242,000
India	--	--	--	38	28	120,000
Russia	5,320	4,080	5,210,000	6,520	4,980	7,000,000
United Kingdom	15	10	101,000	16	11	109,000
Venezuela	--	--	--	4,100	3,080	5,310,000
<b>Total</b>	<b>6,870</b>	<b>5,230</b>	<b>8,090,000</b>	<b>15,900</b>	<b>12,000</b>	<b>20,500,000</b>
<b>Magnesium ferrosilicon:</b>						
Argentina	150	66	475,000	225	96	737,000
Brazil	694	333	1,120,000	694	333	1,120,000
Canada	350	155	718,000	821	371	1,660,000
China	--	--	--	51	23	87,300
<b>Total</b>	<b>1,190</b>	<b>554</b>	<b>2,310,000</b>	<b>1,790</b>	<b>823</b>	<b>3,600,000</b>
<b>Other ferrosilicon:</b>						
Canada	347	130	425,000	759	288	949,000
France	18	9	39,600	18	9	39,600
<b>Total</b>	<b>365</b>	<b>139</b>	<b>465,000</b>	<b>777</b>	<b>297</b>	<b>989,000</b>
<b>Total ferrosilicon</b>	<b>8,680</b>	<b>6,100</b>	<b>11,400,000</b>	<b>19,000</b>	<b>13,500</b>	<b>26,100,000</b>

See footnotes at end of table.

TABLE 3--Continued  
 U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN FEBRUARY 2009<sup>1,2</sup>

(Metric tons, unless otherwise specified)

	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
<b>Metal:</b>						
<b>More than 99.99% silicon:</b>						
Canada	1	XX	\$38,300	91	XX	\$3,850,000
China	4	XX	177,000	22	XX	346,000
Czech Republic	--	XX	--	1	XX	86,400
Denmark	1	XX	468,000	1	XX	553,000
Germany	98	XX	7,420,000	224	XX	16,600,000
Italy	7	XX	455,000	32	XX	1,560,000
Japan	17	XX	1,100,000	37	XX	2,610,000
Norway	5	XX	265,000	9	XX	493,000
Singapore	--	XX	--	(3)	XX	4,130
Taiwan	2	XX	55,600	2	XX	63,200
Other (3 countries)	1	XX	8,090	(3)	XX	8,090
<b>Total</b>	<b>136</b>	<b>136<sup>c</sup></b>	<b>9,990,000</b>	<b>418</b>	<b>418<sup>c</sup></b>	<b>26,200,000</b>
<b>99.00% - 99.99% silicon:</b>						
Australia	1,670	1,660	4,730,000	2,100	2,090	6,020,000
Brazil	2,760	2,730	7,010,000	4,220	3,990	10,700,000
Canada	552	547	1,250,000	1,310	1,300	2,800,000
Laos	270	269	785,000	900	896	2,620,000
Norway	672	668	2,160,000	1,680	1,670	5,580,000
Philippines	90	89	161,000	90	89	161,000
South Africa	660	656	2,040,000	1,630	1,620	5,260,000
Sweden	17	16	133,000	23	22	174,000
Ukraine	122	121	287,000	302	299	800,000
<b>Total</b>	<b>6,810</b>	<b>6,760</b>	<b>18,500,000</b>	<b>12,300</b>	<b>12,000</b>	<b>34,100,000</b>
<b>Other silicon:</b>						
Brazil	1,150	1,040	3,580,000	1,150	1,040	3,580,000
Canada	200	196	358,000	652	639	1,260,000
China	60	59	94,200	222	219	342,000
Japan	(3)	(3)	3,350	(3)	(3)	6,900
Norway	353	236	827,000	660	528	1,570,000
Philippines	--	--	--	72	70	129,000
Singapore	(3)	(3)	3,760	11	(3)	23,300
Ukraine	178	176	409,000	318	314	801,000
Other (2 countries)	(3)	(3)	6,630	(3)	(3)	6,630
<b>Total</b>	<b>1,940</b>	<b>1,710</b>	<b>5,280,000</b>	<b>3,080</b>	<b>2,810</b>	<b>7,720,000</b>
<b>Total silicon metal</b>	<b>8,880</b>	<b>8,600</b>	<b>33,800,000</b>	<b>15,800</b>	<b>15,200</b>	<b>68,000,000</b>

<sup>c</sup>Estimated. XX Not applicable. -- 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 are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.