

# Mineral Industry Surveys

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## PLATINUM-GROUP METALS IN SEPTEMBER 2016

The Engelhard average September price for platinum decreased by 7% and that for palladium decreased slightly compared with average August prices (table 1, fig. 1). The average monthly prices for iridium and rhodium increased by 12% and 5%, respectively, and that for ruthenium was unchanged during the same period. The iridium price reached a 3-year high, reportedly owing to a continued high level of buying by industrial consumers and a shortage of iridium supply. Increased production of light-emitting diodes (LEDs) has spurred demand for iridium for high-temperature crucibles used to grow high-purity single crystals used in LED fabrication (Jonson, 2016).

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**Reference Cited**

Jonson, Nick, 2016, Iridium breaks \$700/oz to reach three-year high on continued industrial interest, tight supply: Platts Metals Daily, v. 5, no. 188, September 23, p.1, 15.

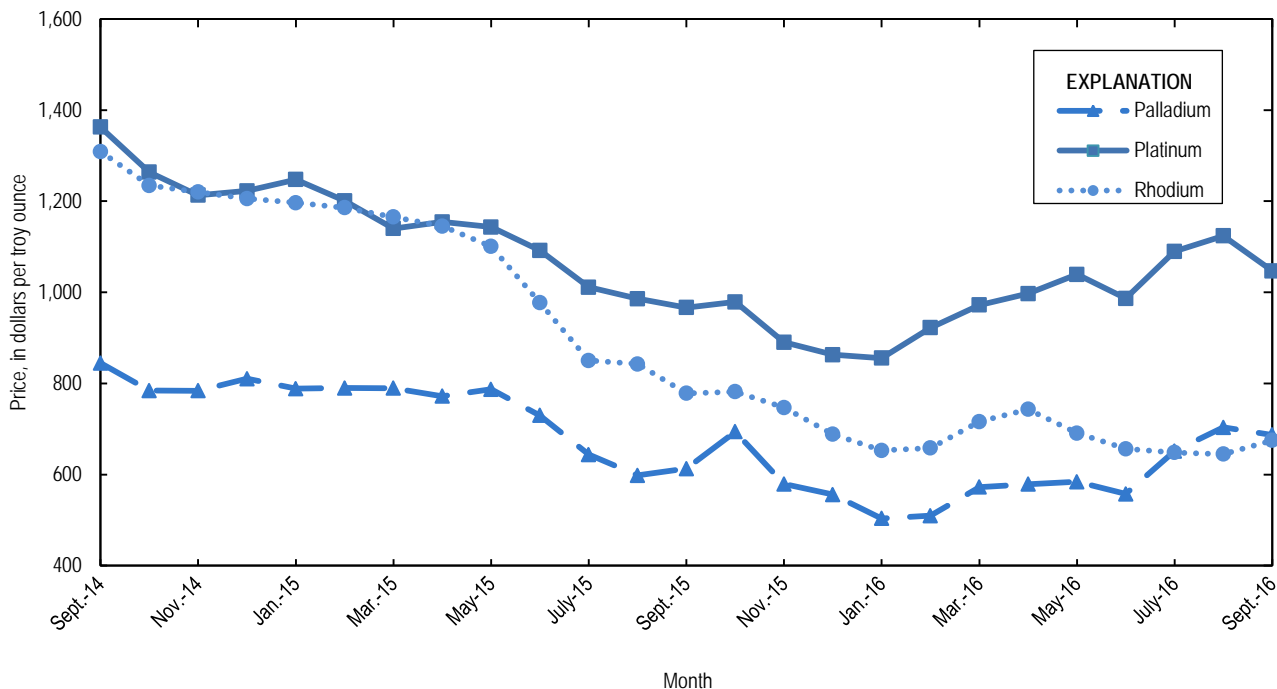


Figure 1. Engelhard monthly palladium, platinum, and rhodium prices for September 2014 through September 2016. Source: Platts Metals Week.

TABLE 1  
 PLATINUM-GROUP METALS PRICES<sup>1</sup>

(Dollars per troy ounce)

	Platinum	Palladium	Rhodium	Iridium	Ruthenium
2015:					
Low/date	833.00 Nov. 30	527.00 Aug. 26	660.00 Dec. 16 and 17	500.00 July–Sept. <sup>2</sup>	40.00 July–Aug. <sup>2</sup>
High/date	1,289.00 Jan. 21	834.00 Mar. 3	1,245.00 Jan. 2 and 5	575.00 Jan.–June <sup>2</sup>	58.00 Jan. <sup>2</sup>
Average	1,056.09	694.99	954.90	544.19	47.63
2016:					
August:					
Low/date	1,052.00/31	678.00/31	625.00 <sup>2</sup>	565.00 <sup>2</sup>	42.00 <sup>2</sup>
High/date	1,184.00/10	734.00/10	675.00 <sup>2</sup>	675.00/26 and 29	42.00 <sup>2</sup>
Average	1,123.91	703.57	644.78	601.30	42.00
September:					
Low/date	1,014.00/16	657.00/14	665.00 <sup>2</sup>	650.00 <sup>2</sup>	42.00 <sup>2</sup>
High/date	1,099.00/7	726.00/30	685.00 <sup>2</sup>	685.00 <sup>2</sup>	42.00 <sup>2</sup>
Average	1,047.05	686.90	675.00	673.33	42.00
January–September:					
Low/date	816.00 Jan. 21	473.00 Jan. 12	625.00 July 29–Aug. <sup>2</sup>	525.00 Jan.–May. <sup>2</sup>	42.00 Jan.–Sept. <sup>2</sup>
High/date	1,184.00 Aug. 10	734.00 Aug. 10	750.00 Mar.–Apr. <sup>2</sup>	685.00 Sept. <sup>2</sup>	42.00 Jan.–Sept. <sup>2</sup>
Average	1,003.72	594.14	676.12	552.17	42.00

<sup>1</sup>Quotes from Engelhard.

<sup>2</sup>Occurred multiple days in month(s) listed.

Source: Platts Metals Week.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM METAL, BY COUNTRY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Period and country	Platinum grain and nuggets		Platinum sponge		Other unwrought platinum		Platinum, other		Platinum waste and scrap		Platinum coins	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)
2015	820	\$24,100	30,000	\$1,040,000	4,700 <sup>†</sup>	\$166,000 <sup>†</sup>	5,960	\$197,000	123,000	\$899,000	1,210	\$43,500 <sup>†</sup>
2016:												
July	6	189	2,830	95,000	386	13,300	189	5,970	24,100	68,300	35	1,330
August	8	280	2,310	80,200	478	17,000	560	20,500	2,560	75,700	97	3,780
September:												
Australia	--	--	--	--	--	--	--	--	25	730	5	180
Belgium	--	--	56	1,570	--	--	--	--	--	--	--	--
Brazil	--	--	--	--	--	--	--	--	77	1,880	--	--
Canada	2	79	--	--	--	--	9	330	8,240	11,500	20	552
China	--	--	--	--	35	1,240	8	362	236	5,130	--	--
Colombia	--	--	--	--	116	3,680	--	--	3	38	--	--
Czech Republic	--	--	--	--	--	--	12	442	2	107	--	--
France	--	--	15	523	--	--	13	445	43	1,370	--	--
Germany	1	12	29	1,070	95	3,520	392	12,400	215	11,900	9	203
Italy	--	--	608	19,500	--	--	(2)	9	--	--	--	--
Japan	--	--	--	--	(2)	3	4	118	170	4,540	--	--
Malaysia	--	--	--	--	--	--	--	--	100	1,470	--	--
Mexico	--	--	--	--	2	76	--	--	27	871	--	--
Norway	--	--	47	1,640	--	--	--	--	--	--	--	--
Poland	--	--	--	--	--	--	--	--	133	4,740	--	--
Singapore	--	--	--	--	120	5,020	6	259	174	5,470	--	--
South Africa	--	--	1,730	57,800	--	--	--	--	--	--	--	--
Switzerland	--	--	--	--	(2)	20	1,870	65,700	(2)	5	--	--
Taiwan	--	--	115	3,610	--	--	--	--	--	--	--	--
United Kingdom	--	--	37	1,270	--	--	25	861	210	5,130	--	--
Other	--	--	3	102	--	--	1	72	26	716	--	--
Total	3	91	2,640	87,100	369	13,600	2,340	80,900	9,680	55,700	34	935
January–September	253	7,250	20,900	666,000	3,650	119,000	6,460	209,000	136,000	606,000	693	23,900

<sup>†</sup>Revised. -- Zero.

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

<sup>2</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM-GROUP METALS, BY COUNTRY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Period and country	Unwrought palladium		Palladium, other		Iridium <sup>2</sup>		Osmium <sup>2</sup>		Ruthenium <sup>2</sup>		Rhodium <sup>2</sup>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2015	75,700	\$1,650,000	9,600	\$228,000	1,010	\$17,400	8	\$59	8,230	\$14,600	10,600	\$336,000
2016:												
July	4,960	95,400	719	23,400	51	829	--	--	387	642	920	19,200
August	7,810	173,000	814	20,100	89	1,580	25	136	591	960	1,110	23,100
September:												
Belgium	552	10,800	--	--	--	--	--	--	--	--	58	1,190
Canada	(3)	16	201	6,450	--	--	--	--	--	--	2	44
China	--	--	--	--	--	--	--	--	--	--	9	310
Germany	170	654	211	5,370	18	484	--	--	--	--	42	950
Italy	598	13,300	4	63	--	--	--	--	--	--	39	896
Japan	63	655	--	--	43	874	--	--	--	--	--	--
Korea, Republic of	--	--	3	47	--	--	--	--	--	--	(3)	18
Norway	109	2,430	--	--	--	--	--	--	--	--	--	--
Russia	1,320	29,300	723	16,100	--	--	--	--	--	--	75	1,500
South Africa	12,800	104,000	146	3,160	73	899	--	--	211	360	654	13,000
United Kingdom	901	19,800	4	99	18	275	--	--	807	1,100	28	890
Other	--	--	19	433	1	5	--	--	--	--	--	--
Total	16,500	181,000	1,310	31,800	154	2,540	--	--	1,020	1,460	908	18,800
January–September	58,500	944,000	8,700	188,000	953	15,700	27	159	5,780	9,660	8,330	177,000

-- Zero.

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

<sup>2</sup>Unwrought and other forms.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF PLATINUM-GROUP METALS, BY COUNTRY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Period and country	Platinum <sup>2</sup>		Platinum waste and scrap		Palladium <sup>2</sup>		Iridium, osmium, and ruthenium <sup>2,3</sup>		Rhodium <sup>2</sup>	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)
2015	14,400	\$469,000	246,000	\$886,000	23,000	\$458,000	781	\$13,800	759	\$25,800
2016:										
July	834	28,500	18,100	62,100	1,480	24,800	33	533	32	730
August	2,140	66,400	45,100	53,000	1,440	24,800	183	2,650	123	2,800
September:										
Australia	7	157	--	--	6	135	11	125	--	--
Canada	13	481	1	23	196	3,550	--	--	--	--
China	20	413	--	--	205	3,750	8	55	20	791
France	4	173	--	--	44	281	1	5	--	--
Germany	373	10,900	449	10,800	110	1,380	3	52	5	120
Hong Kong	5	191	--	--	50	1,130	13	164	--	--
India	26	854	--	--	8	124	1	4	--	--
Ireland	7	242	--	--	30	154	1	3	--	--
Israel	1	17	--	--	40	218	--	--	--	--
Italy	6	143	--	--	8	229	--	--	--	--
Japan	98	3,370	21,300	15,300	13	97	--	--	--	--
Korea, Republic of	1	32	--	--	13	135	1	28	--	--
Luxembourg	225	7,540	--	--	195	4,060	--	--	--	--
Mexico	170	3,130	--	--	15	399	--	--	(4)	5
Singapore	72	2,360	--	--	1	33	--	--	--	--
Switzerland	3	83	233	4,380	6	159	1	36	--	--
Taiwan	1	20	--	--	73	1,110	6	7	--	--
Thailand	4	182	--	--	29	361	--	--	--	--
United Kingdom	12	393	1,200	22,300	17	168	6	84	--	--
Other	16	581	91	518	12	149	3	54	--	--
Total	1,060	31,200	23,300	53,300	1,070	17,600	56	617	25	916
January–September	10,900	328,000	215,000	515,000	13,600	205,000	621	9,510	615	15,000

-- Zero.

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

<sup>2</sup>Unwrought and other forms.

<sup>3</sup>Gross weight.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.