

Rhodium

(Rh, Pt)

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Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$ (synthetic). As subhedral grains, to 200 μm .

Physical Properties: Hardness = n.d. VHN = 136–194, 165 average (30 g load).
D(meas.) = n.d. D(calc.) = [16.5]

Optical Properties: Opaque. *Color:* In polished section, bright white. *Luster:* Metallic.
R: (470) 75.2, (546) 72.6, (589) 73.3, (650) 75.7

Cell Data: *Space Group:* $Fm\bar{3}m$ (synthetic). $a = 3.856(1)$ $Z = 4$

X-ray Powder Pattern: Stillwater complex, Montana, USA.
0.7874 (100), 0.8623 (80), 0.8847 (70), 2.227 (60), 1.362 (50), 1.162 (50), 1.927 (30)

Chemistry:

	(1)
Pt	59.6
Rh	41.7
Total	101.3

(1) Stillwater complex, Montana, USA; by electron microprobe, corresponding to $\text{Rh}_{0.57}\text{Pt}_{0.43}$.

Occurrence: A single grain was found in heavy mineral concentrates (Stillwater complex, Montana, USA).

Association: Platinum, Pt–Fe alloy, gold, moncheite, kotulskite, merenskyite, cooperite, braggite, vysotskite, sperrylite, pyrite, chalcopyrite, pyrrhotite, chromite, magnetite, marcasite, violarite, graphite (Stillwater complex, Montana, USA).

Distribution: In the USA, from the Stillwater complex, Montana [TL], and at Fox Gulch, Goodnews Bay, Alaska.

Name: From the Greek *rhodon*, *rose*.

Type Material: Royal Ontario Museum, Toronto, Canada, M33257.

References: (1) Cabri, L.J. and J.H.G. Laflamme (1974) Rhodium, platinum, and gold alloys from the Stillwater Complex. *Can. Mineral.*, 12, 399–403. (2) (1976) *Amer. Mineral.*, 61, 340 (abs. ref. 1). (3) Ewald, P.P. and C. Hermann, Eds. (1931) Rhodium, *Rh*. *Strukturbereich*, 1, 69 (in German). (4) Cabri, L.J., Ed. (1981) Platinum group elements: mineralogy, geology, recovery. *Can. Inst. Min. & Met.*, 132–133.