

Crystal Data: Monoclinic. *Point Group:* $2/m$. As prismatic to acicular crystals with nearly square outline, elongated and striated [001], to 15 cm.; short prismatic to pseudo-octahedral, may be highly modified, terminations are commonly hollow or incomplete. Typically in radial sprays to randomly intergrown aggregates.

Physical Properties: *Cleavage:* Distinct on {110}; indistinct on {001} and {100}. *Fracture:* Small conchoidal to uneven. *Tenacity:* Sectile. *Hardness* = 2.5–3 *D*(meas.) = 6.0–6.1 *D*(calc.) = [6.10]

Optical Properties: Transparent to translucent. *Color:* Hyacinth-red, red-orange, orange; red-orange in transmitted light. *Streak:* Yellow-orange. *Luster:* Adamantine. *Optical Class:* Biaxial (+). *Pleochroism:* Weak; *X* = *Y* = red-orange; *Z* = blood-red. *Orientation:* *Y* = *b*; $Z \wedge c = 5.5^\circ$. *Dispersion:* $r > v$, very strong, inclined. $\alpha = 2.29(2)$ $\beta = 2.36(2)$ $\gamma = 2.66(2)$ $2V(\text{meas.}) = 54^\circ$

Cell Data: *Space Group:* $P2_1/n$. *a* = 7.120 *b* = 7.421 *c* = 6.800 $\beta = 102^\circ 20'$ *Z* = 4

X-ray Powder Pattern: Beresovsk, Russia. 3.277 (10), 3.475 (8), 3.030 (6), 4.374 (5), 2.254 (5), 4.950 (3), 1.846 (3)

Chemistry:	(1)	(2)
CrO ₃	30.35	30.94
SiO ₂	1.10	
PbO	68.35	69.06
Total	99.80	100.00

(1) Nontron, France. (2) PbCrO₄.

Occurrence: An uncommon secondary mineral in the oxidized portions of lead deposits associated with chromium-bearing rocks; may be of post-mine formation.

Association: Phoenicochroite, vauquelinite, embreyite, pyromorphite, dundasite, vanadinite, descloizite, wulfenite, cerussite, anglesite, quartz, "limonite".

Distribution: From the Tsvetnoi mine, Mt. Uspenskaya, the Preobrazhensky mine, and other mines, Beresovsk district, and on Mt. Tochil'naya, Middle Ural Mountains, near Yekaterinburg (Sverdlovsk), Russia. At Băița (Rézbánya), Romania. In Germany, fine examples from Obercallenberg, near Glauchau, Saxony. In the Hopeful vein, Leadhills, Lanarkshire, Scotland. From the Greystone quarry, Lezant, Cornwall, England. At the Cantonniers mine, Nontron, Dordogne, France. From Howard's Luck mine, Umtali, and at a number of other minor occurrences in Zimbabwe. From the Argent Pb–Zn mines, about 100 km east of Johannesburg, Transvaal, South Africa. In Australia, as exceptional specimens and an ore of lead in the Dundas district, at the Adelaide, West Comet, and other mines, also from the Heazlewood, Whyte River, and Magnet mines, Tasmania; from the Happy Jack mine, Comet Vale, and several other places in Western Australia; at the Wadnaminga gold mines, near Olary, South Australia. From Labo, Luzon, Philippines. At Goyabeira, near Congonhas do Campo, Minas Gerais, Brazil. In the USA, from Darwin, Inyo Co., California; at the Moon Anchor, Potter-Kramer, Pack Rat, and other mines south of Wickenburg, Maricopa Co., Arizona.

Name: From the Greek for *saffron*, an allusion to the distinctive red-orange color.

Type Material: Natural History Museum, Paris, France.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 646–649. (2) Quareni, S. and R. De Pieri (1965) A three-dimensional refinement of the structure of crocoite, PbCrO₄. *Acta Cryst.*, 19, 287–289. (3) Williams, S.A. (1974) The natural occurring chromates of lead. *Bull. British Museum (Natural History), Mineralogy*, 2(8), 379–419, esp. 403–405.

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