

# Erythrosiderite



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**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ . As tabular pyramidal crystals, flattened on {100}, showing {100}, {210}, {201}, {101}, {011}, {010}, to 0.03 mm.

**Physical Properties:** *Cleavage:* Perfect on {210} and {011}. *Hardness* = n.d. *D(meas.)* = n.d. *D(calc.)* = 2.364 Easily soluble in  $\text{H}_2\text{O}$ ; very deliquescent.

**Optical Properties:** Translucent. *Color:* Ruby-red to red and brownish red; brownish red to yellowish in transmitted light. *Luster:* Vitreous.

*Optical Class:* Biaxial (+). *Orientation:*  $X = a$ ;  $Y = c$ ;  $Z = b$ . *Dispersion:*  $r > v$ , strong.  $\alpha = 1.715$   $\beta = 1.75$   $\gamma = 1.79\text{--}1.80$   $2V(\text{meas.}) = 62^\circ$

**Cell Data:** *Space Group:*  $Pnma$ .  $a = 13.75$   $b = 9.924$   $c = 6.93$   $Z = 4$

**X-ray Powder Pattern:** Synthetic.

2.782 (100), 5.566 (40), 2.427 (40), 5.68 (35), 2.440 (25), 2.993 (19), 2.841 (16)

**Chemistry:**

	(1)	(2)
K	24.21	23.74
Fe	16.81	16.96
Cl	53.30	53.83
$\text{H}_2\text{O}$	[5.68]	5.47
Total	[100.00]	100.00

(1) Vesuvius, Italy;  $\text{H}_2\text{O}$  by difference. (2)  $\text{K}_2\text{FeCl}_5 \cdot \text{H}_2\text{O}$ .

**Occurrence:** As sublimates around fumaroles (Vesuvius, Italy); rimming rinneite in bedded salt deposits (Stassfurt, Germany; Kansk-Taseev depression, Russia).

**Association:** Kremersite, molysite, hematite (Vesuvius, Italy); rinneite (Stassfurt, Germany; Kansk-Taseev depression, Russia).

**Distribution:** On Vesuvius, Campania, Italy. In Germany, at Stassfurt, 34 km south of Magdeburg, Saxony-Anhalt. From Aislaby, near Whitby, Yorkshire, England. In the Kansk-Taseev depression, Siberia, and at the Kliuchevsky volcano, Kamchatka Peninsula, Russia.

**Name:** From the Greek for *red* and *iron*, in allusion to its color and composition.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 101–103. (2) Bellanca, A. (1948) La struttura dell'eritrosiderite. *Periodico Mineral*, 17, 59–72 (in Italian with English abs.). (3) Kolosov, A.S., A.M. Pustyl'nikov, and T.M. Zharkova (1968) Complex chlorides of iron and manganese in Cambrian salt deposits of the Kansk-Taseev depression. *Doklady Acad. Nauk SSSR*, 181, 1472–1475 (in Russian). (4) (1977) NBS Mono. 25, 14, 27.