

Reinhardbraunsite**Ca₅(SiO₄)₂(OH, F)₂**

©2001 Mineral Data Publishing, version 1.2

Crystal Data: Monoclinic. *Point Group:* 2/m. Anhedral to subhedral grains, up to 3 mm. *Twinning:* Single and multiple twinning on {001}, noted only in minute recrystallized grains.

Physical Properties: *Cleavage:* Distinct on {001}. *Fracture:* Conchoidal. Hardness = 5–6
D(meas.) = 2.85(2) D(calc.) = 2.885

Optical Properties: Transparent to translucent. *Color:* Light pink; colorless in thin section. *Streak:* White. *Luster:* Vitreous.

Optical Class: Biaxial (-). *Orientation:* Z = b; X ∧ c = 18(1)°. *Dispersion:* r > v, distinct.
α = 1.606(2) β = 1.617(2) γ = 1.620(2) 2V(meas.) = 44°–50°

Cell Data: *Space Group:* P2₁/a. a = 11.458(2) b = 5.052(1) c = 8.840(2)
β = 108.91(1)° Z = 2

X-ray Powder Pattern: Bellerberg volcano, Germany.

1.902 (100), 3.035 (80), 2.903 (75), 3.322 (50), 2.941 (50), 1.894 (50), 1.658 (45)

Chemistry:

	(1)
SiO ₂	26.97
CaO	65.68
F	4.24
H ₂ O	[2.66]
P ₂ O ₅	0.69
–O = F ₂	1.78
Total	[98.46]

(1) Bellerberg volcano, Germany; by electron microprobe, H₂O calculated from stoichiometry, original total given as 98.65%; corresponds to Ca_{5.10}(Si_{1.96}P_{0.04})_{Σ=2.00}O₈[(OH)_{1.24}F_{0.97}]_{Σ=2.21}.

Occurrence: In contact metamorphosed and metasomatized calcium-rich xenoliths in scoria.

Association: Ellestadite, cuspidine, gehlenite, brownmillerite, mayenite, periclase.

Distribution: From the Ettringer Bellerberg volcano, near Mayen, Eifel district, Germany.

Name: For Dr. Reinhard Brauns (1861–1937), Professor of Mineralogy at the University of Bonn, Bonn, Germany.

Type Material: Mineralogical-Petrological Institute, University of Bonn, Bonn, Germany.

References: (1) Hamm, H.-M. and G. Hentschel (1983) Reinhardbraunsite, Ca₅(SiO₄)₂ equivalent of synthetic “calcio-chondrodite.” Neues Jahrb. Mineral., Monatsh., 119–129.

(2) (1983) Amer. Mineral., 68, 1039–1040 (abs. ref. 1). (3) Kirfel, A., H.-M. Hamm, and G. Will (1983) The crystal structure of reinhardbraunsite, Ca₅(SiO₄)₂(OH, F)₂, a new mineral of the calcio-chondrodite type. Tschermaks Mineral. Petrog. Mitt., 31, 137–150.