Clinobehoite $Be(OH)_2$

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Crystal Data: Monoclinic. *Point Group:* 2. Crystals platy, cuneiform, in radial and spherulitic aggregates, to 1 mm.

Physical Properties: Cleavage: Perfect on $\{100\}$; imperfect on $\{010\}$ and $\{001\}$. Tenacity: Brittle. Hardness = 2-3 D(meas.) = 1.93(3) D(calc.) = 1.92(2)

Optical Properties: Transparent in thin plates. Color: White. Luster: Vitreous, pearly. Optical Class: Biaxial (-). Orientation: Y = b; $X \simeq c$; $Z \wedge a \simeq 9^{\circ}$. Dispersion: r < v, strong. $\alpha = 1.539(1)$ $\beta = 1.544(1)$ $\gamma = 1.548(1)$ $2V(\text{meas.}) = 80^{\circ}$ $2V(\text{calc.}) = 83^{\circ}$

Cell Data: Space Group: $P2_1$. a = 11.020(8) b = 4.746(6) c = 8.646(9) $\beta = 98.94(8)^{\circ}$ Z = 12

X-ray Powder Pattern: Malyshev deposit, Russia. 2.714 (10), 3.61 (9), 5.43 (8), 3.76 (7), 3.16 (7), 2.306 (7), 3.98 (6)

Chemistry:

$$\begin{array}{ccc} & (1) & (2) \\ \text{BeO} & 55(5) & 58.13 \\ \text{H}_2\text{O} & 41.0 & 41.87 \\ \hline \text{Total} & 100.00 \end{array}$$

- (1) Malyshev deposit, Russia; Be by laser spectral analysis, H₂O by coulometric analysis.
- (2) $Be(OH)_2$.

Polymorphism & Series: Polymorphous with behoite.

Occurrence: In hydrothermally altered zones in desilicated pegmatites.

Association: Bavenite, bityite, phillipsite, analcime, albite.

Distribution: From the Malyshev deposit, Asbest district, near Yekaterinburg (Sverdlovsk), Ural Mountains, Russia.

Name: For its monoclinic symmetry and relation to behoite.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia.

References: (1) Voloshin, A.V., Y.A. Pakhomovskii, D.L. Rogatschev, T.N. Nadezhina, D.Y. Pushcharovskii, and A.Y. Bakhchisaraytsev (1989) Clinobehoite – a new natural modification of Be(OH)₂ from desilicated pegmatites. Mineral. Zhurnal, 11(5), 88–95 (in Russian with English abs.). (2) (1991) Amer. Mineral., 76, 666–667 (abs. ref. 1). (3) Nadezhina, T.N., D.Y. Pushcharovskii, R.K. Rastsvetaeva, A.V. Voloshin, and I.F. Burshtein (1989) Crystal structure of a new natural Be(OH)₂ modification. Doklady Acad. Nauk SSSR, 305, 95–98 (in Russian). (4) (1990) Amer. Mineral., 75, 1213 (abs. ref. 3).