

Crystal Data: Monoclinic. *Point Group:* *m*. Crystals are prismatic, elongated along [100] and tabular on {010}, to 0.5 mm, showing {010}, with {100}, and {001}, in radiating clusters; as spherical nodules.

Physical Properties: *Cleavage:* Perfect on {010}; poor on {100} and {001}. Hardness = ~2 D(meas.) = 2.24 D(calc.) = 2.27

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (-). *Orientation:* $Z = b$; $X \wedge c = 25^\circ$. $\alpha = 1.496(2)$ $\beta = 1.504(2)$ $\gamma = 1.506(4)$ $2V(\text{meas.}) = 52(5)^\circ$ $2V(\text{calc.}) = 52.9^\circ$

Cell Data: *Space Group:* *Pc*. $a = 5.673(4)$ $b = 8.48(1)$ $c = 10.529(5)$ $\beta = 106.13(6)^\circ$ $Z = 2$

X-ray Powder Pattern: Haledon, New Jersey, USA.

3.06 (100), 2.608 (90), 8.47 (80), 5.44 (80), 4.36 (70), 5.06 (60), 3.87 (60)

Chemistry:

| | (1) | (2) |
|-------------------------------|------|--------|
| P ₂ O ₅ | 43.4 | 42.75 |
| MgO | 0.2 | |
| CaO | 17.5 | 16.89 |
| Na ₂ O | 16.5 | 18.66 |
| H ₂ O | 21.8 | 21.70 |
| Total | 99.4 | 100.00 |

(1) Haledon, New Jersey, USA; by electron microprobe, H₂O by DTA-TGA; corresponds to Ca_{1.03}Mg_{0.03}Na_{1.74}(P_{2.00}O₇)•3.96H₂O. (2) CaNa₂(P₂O₇)•4H₂O.

Occurrence: On a museum micromount specimen presumably from a trap-rock quarry (Haledon, New Jersey, USA); in recent lake-bed sediments (La Cruz Lake, Spain).

Association: Stilbite, quartz (Haledon, New Jersey, USA).

Distribution: Attributed to [Braens quarry,] Haledon [or Great Notch quarry, near Little Falls], Passaic Co., New Jersey, USA. From La Cruz Lake, Cuenca Province, Spain.

Name: For CAlcium, sodium, NAtrium, and PHosphate in the composition.

Type Material: National Museum of Natural History, Washington, D.C., USA, 160286.

References: (1) Peacor, D.R., P.J. Dunn, W.B. Simmons, and F.J. Wicks (1985) Canaphite, a new sodium calcium phosphate hydrate from the Paterson area, New Jersey. *Mineral. Record*, 16, 467–468. (2) (1986) *Amer. Mineral.*, 71, 1543–1544 (abs. ref. 1). (3) Rouse, R.C., D.R. Peacor, and R.L. Freed (1988) Pyrophosphate groups in the structure of canaphite, CaNa₂P₂O₇•4H₂O: the first occurrence of a condensed phosphate as a mineral. *Amer. Mineral.*, 73, 168–171. (4) Queralt, I., R. Juliá, and F. Plana (1994) Canaphite: an uncommon condensed phosphate in lake sediments. 16th Meeting, Int. Mineral. Assoc., Pisa, Italy, 343 (abs.).