

Crystal Data: Tetragonal. *Point Group:* $4/m\ 2/m\ 2/m$. As irregular grains, to 0.1 mm.

Physical Properties: *Cleavage:* Perfect on {001} (synthetic). *Tenacity:* n.d. *Fracture:* n.d. Hardness = 2.5 (synthetic). $D(\text{meas.}) = \text{n.d.}$ $D(\text{calc.}) = 4.54$ Soluble in water.

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (-). $\omega = 1.656(2)$ $\varepsilon = 1.652(2)$ (synthetic).

Cell Data: *Space Group:* $P4/nmm$. $a = 4.3951(8)$ $c = 7.223(2)$ $Z = 2$

X-ray Powder Pattern: Bayan Obo, Inner Mongolia, China.
3.75 (100), 3.11 (94), 2.36 (82), 2.79 (67), 1.898 (49), 1.670 (39), 1.726 (34)

Chemistry:	(1)	(2)
Ba	70.90	71.61
F	9.88	9.91
<u>Cl</u>	<u>18.85</u>	<u>18.48</u>
Total	99.63	100.00

(1) Bayan Obo, Inner Mongolia, China; average of 12 electron microprobe analyses, corresponding to $\text{Ba}_{0.99}\text{F}_{0.99}\text{Cl}_{1.02}$. (2) BaFCl.

Mineral Group: Matlockite group.

Occurrence: As inclusions in fluorite in a polymetallic Nb–REE–Fe deposit.

Association: Barite, hematite, norsethite, fluorite.

Distribution: Bayan Obo deposit, Inner Mongolia, China.

Name: Honors Professor Zhang Peishan (b. 1925) for his contributions to the mineralogy of Bayan Obo.

Type Material: National Museum of Nature and Science, Tokyo, Japan, NSM-MF14696; Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing, China, KDX013.

References: (1) Shimazaki, H., R. Miyawaki, K. Yokoyama, S. Matsubara, and Z. Yang (2008) Zhangpeishanite, BaFCl, a new mineral in fluorite from Bayan Obo, Inner Mongolia, China. *Eur. J. Mineral.*, 20, 1141–1144. (2) (2009) *Amer. Mineral.*, 94, 1081–1082 (abs. ref. 1).