## Ximengite $BiPO_4$



**Crystal Data:** Hexagonal. *Point Group:* 32. Granular, to 0.1 mm, in veinlets and earthy aggregates.

**Physical Properties:** *Tenacity:* Brittle. Hardness = n.d. VHN = 297–283, average 281. D(meas.) = n.d. D(calc.) = 5.534 Yellowish green cathodoluminescence under the electron beam.

**Optical Properties:** Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous to greasy.
*Optical Class:* Uniaxial (+). $\omega = > 1.77$ $\epsilon = > 1.77$

**Cell Data:** *Space Group:* $[P3_121]$ (by analogy to synthetic material). $a = 6.986(2)$ $c = 6.475(3)$ $Z = 3$

**X-ray Powder Pattern:** Ximeng Co., China.
3.024 (100), 4.420 (91), 3.493 (88), 6.052 (73), 2.854 (65), 1.7474 (48), 2.157 (47)

**Chemistry:**

| | (1) | (2) |
|---|---|---|
| $P_2O_5$ | 22.92 | 23.35 |
| $Bi_2O_3$ | 76.34 | 76.65 |
| $H_2O$ | 0.76 | |
| Total | 100.02 | 100.00 |

(1) Ximeng Co., China; by electron microprobe, corresponding to $Bi_{1.01}P_{0.90}O_4$. (2) $BiPO_4$.

**Occurrence:** An alteration product of bismuthinite in a tin deposit.

**Association:** Bismuthinite, waylandite, monazite, cassiterite, tourmaline.

**Distribution:** From an undefined locality in Ximeng Co., about 420 km southwest of Kunming, Yunnan Province, China.

**Name:** For Ximeng Co., China, in which it was first noted to occur.

**Type Material:** Bureau of Geology and Mineral Resources, Kunming, China.

**References:** (1) Jiaxin Shi (1989) Ximengite – a new mineral. Acta Mineralogica Sinica, 9(1), 15–19 (in Chinese with English abs.). (2) (1991) Amer. Mineral., 76, 1436 (abs. ref. 1). (3) Jiaxin Shi (1989) A new mineral – ximengite. Chinese J. Geochem., 8(4), 385–391 (in English).
(4) Mooney-Slater, R.C.L. (1962) Polymorphic forms of bismuth phosphate. Zeits. Krist., 117, 371–385.