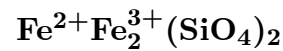


# Laihunite



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**Crystal Data:** Monoclinic, pseudo-orthorhombic. *Point Group:*  $2/m$ . Crystals subhedral, thick tabular to short prismatic, to 1 mm; as anhedral grains.

**Physical Properties:** *Cleavage:* Perfect on  $\{100\}$  and  $\{010\}$ , two less perfect  $\sim\perp\{100\}$  and intersecting at  $60^\circ$ . *Hardness* = 5.5–6.5 *VHN* = 617–833 *D*(meas.) = 3.967 *D*(calc.) = 4.11 Moderately magnetic and electromagnetic.

**Optical Properties:** Opaque, translucent in very thin section. *Color:* Black; gray in reflected light. *Streak:* Pale brown, blackish brown. *Luster:* Submetallic to metallic. *Pleochroism:* Gray to grayish black. *Anisotropism:* Weak.

**Cell Data:** *Space Group:*  $P2_1/b$ .  $a = 4.805(2)$   $b = 10.189(9)$   $c = 17.403(9)$   
 $\alpha = 91.0(2)^\circ$   $Z = 12$

**X-ray Powder Pattern:** Little Lai-He Village, China.  
3.488 (10b), 2.521 (10), 2.774 (9), 1.745 (8), 2.405 (7), 2.246 (7), 2.175 (6)

<b>Chemistry:</b>	(1)
	SiO <sub>2</sub> 31.07
	Fe <sub>2</sub> O <sub>3</sub> 44.24
	FeO 23.64
	MgO 0.87
	CaO 0.21
	<hr/>
	Total 100.03

(1) Little Lai-He Village, China; corresponds to  $(\text{Fe}_{1.18}^{2+}\text{Mg}_{0.08})_{\Sigma=1.26}\text{Fe}_{2.00}^{3+}(\text{Si}_{0.93}\text{O}_4)_2$ .

**Polymorphism & Series:** 3M, 2M polytypes.

**Occurrence:** In a Precambrian metamorphic iron deposit, probably derived by oxidation of fayalite (Little Lai-He Village, China).

**Association:** Quartz, “hypersthene,” magnetite, “hornblende,” augite, plagioclase (Little Lai-He, China).

**Distribution:** At Little Lai-He village, Liaoning Province, China. From Kamitaga, Shizuoka Prefecture, and Yugawara, Kanagawa Prefecture, Japan. In the Cherkassk massif, Kuraminsk, Siberia, Russia. From the St. Peters Dome area, El Paso Co., Colorado, USA.

**Name:** For the occurrence at Little Lai-He Village, China.

**Type Material:** n.d.

**References:** (1) Laihunite Research Group, Guiyang Institute of Geochemistry, Academia Sinica and Geological Team 101, Liaoning Metallurgical and Geological Prospecting Company (1976) Laihunite, a new iron silicate mineral. *Geochimica*, 2, 95–103 (in Chinese with English abs.). (2) X-ray Laboratory, Guiyang Institute of Geochemistry, Academia Sinica (1976) The crystal structure of laihunite. *Geochimica*, 2, 104–105 (in Chinese with English abs.). (3) (1977) *Amer. Mineral.*, 62, 1058 (abs. refs. 1 and 2). (4) Ferrifayalite Research Group, Department of Geology, Peking University and Institute of Geology and Mineral Resources, Chinese Academy of Geological Sciences (1976) Ferrifayalite and its crystal structure. *Acta Geologica Sinica*, 2, 161–175 (in Chinese with English abs.). (5) (1978) *Amer. Mineral.*, 63, 424–425 (abs. ref. 4). (6) Shen, B., O. Tamada, M. Kitamura, and N. Morimoto (1986) Superstructure of laihunite-3M ( $\square_{0.40}\text{Fe}_{0.80}^{2+}\text{Fe}_{0.80}^{3+}\text{SiO}_4$ ). *Amer. Mineral.*, 71, 1455–1460.

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