

Ferrokesterite**Cu₂(Fe, Zn)SnS₄**

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Crystal Data: Tetragonal, pseudocubic. *Point Group:* $\bar{4}$. Massive, granular, to 0.5 mm.**Physical Properties:** *Cleavage:* Distinct on {110}; a parting on {001}. *Hardness* = ~4 VHN = 228–255, 238 average (100 g load). *D(meas.)* = n.d. *D(calc.)* = 4.490**Optical Properties:** Opaque. *Color:* Steel-gray; medium gray in reflected light. *Streak:* Black. *Luster:* Metallic. *Anisotropism:* Weak; in shades of gray. *Birefractance:* Weak. *R₁–R₂:* 23.9–26.8 (470), 26.0–27.0 (546), 26.4–27.3 (589), 26.0–26.8 (650)**Cell Data:** *Space Group:* $I\bar{4}$ (by analogy to kesterite). *a* = 5.433(36) *c* = 10.883(89) *Z* = 2**X-ray Powder Pattern:** Cligga mine, England.

3.13 (10), 1.919 (6), 1.110 (4), 2.712 (3), 1.242 (3), 1.045 (3), 0.9182 (3)

Chemistry:

	(1)
Cu	29.5
Zn	5.0
Cd	0.1
Fe	8.7
Mn	0.1
Sn	27.4
S	30.1
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Total	100.9

(1) Cligga mine, England; by electron microprobe, corresponding to Cu_{1.99}(Fe_{0.67}Zn_{0.33})_{Σ=1.00}Sn_{0.99}S_{4.02}.**Polymorphism & Series:** Dimorphous with stannite.**Occurrence:** In greisen-bordered sulfide veins in granite.**Association:** Arsenopyrite, cassiterite, chalcopyrite, sphalerite, chalcocite, quartz.**Distribution:** From the Cligga mine, Perranzabuloe, Cornwall, England [TL].**Name:** For its content of iron, *ferrum*, and relation to kesterite.**Type Material:** Canadian Geological Survey, Ottawa, Canada, 14747, 65048; The Natural History Museum, London, England, 1984,844.**References:** (1) Kissin, S.A. and D.R. Owens (1989) The relatives of stannite in the light of new data. *Can. Mineral.*, 27, 673–688. (2) (1990) *Amer. Mineral.*, 75, 1432 (abs. ref. 1).