

Fingerite

$\text{Cu}_{11}\text{O}_2(\text{VO}_4)_6$

©2001-2005 Mineral Data Publishing, version 1

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As crystals, to 150 μm , may be subhedral or anhedral; equant or platelike. *Twinning:* As contact and multiple twins, by rotation about [010].

Physical Properties: Hardness = n.d. D(meas.) = n.d. D(calc.) = 4.776

Optical Properties: Opaque. *Color:* Black; medium gray in reflected light. *Streak:* Dark reddish brown. *Luster:* Metallic.

Optical Class: Biaxial.

Cell Data: *Space Group:* $P\bar{1}$. $a = 8.1576(6)$ $b = 8.2691(5)$ $c = 8.0437(7)$
 $\alpha = 107.144(5)^\circ$ $\beta = 91.389(7)^\circ$ $\gamma = 106.441(5)^\circ$ $Z = 1$

X-ray Powder Pattern: Izalco volcano, El Salvador.

6.48 (100), 3.042 (80), 2.822 (70), 2.025 (70), 3.894 (60), 3.617 (60), 3.293 (60d)

Chemistry:

	(1)	(2)	(3)
V_2O_5	39.65	39.67	38.41
CuO	59.3	59.53	61.59
Total	98.95	99.20	100.00

(1) Izalco volcano, El Salvador; by electron microprobe, average of seven analyses. (2) Do.; by electron microprobe, averages of 15 analyses of three crystals; corresponds to $\text{Cu}_{10.6}\text{O}_{1.3}(\text{VO}_4)_{6.2}$. (3) $\text{Cu}_{11}\text{O}_2(\text{VO}_4)_6$.

Occurrence: A rare component of vanadium-bearing sublimates in fumaroles on a basaltic volcanic cone, formed between 100 °C and 200 °C.

Association: Thenardite, euchlorine, stoiberite, shcherbinaite, ziesite, bannermanite, chalcocyanite, chalcanthite.

Distribution: On the Izalco volcano, El Salvador.

Name: In honor of Dr. Larry W. Finger (1940–), American mineralogist, Carnegie Institution, Washington, D.C., USA.

Type Material: Carnegie Institution, Washington, D.C.; National Museum of Natural History, Washington, D.C., USA, 160387.

References: (1) Hughes, J.M. and C.G. Hadidiacos (1985) Fingerite, $\text{Cu}_{11}\text{O}_2(\text{VO}_4)_6$, a new vanadium sublimate from Izalco volcano, El Salvador: descriptive mineralogy. *Amer. Mineral.*, 70, 193–196. (2) Finger, L.W. (1985) Fingerite, $\text{Cu}_{11}\text{O}_2(\text{VO}_4)_6$, a new vanadium sublimate from Izalco volcano, El Salvador: crystal structure. *Amer. Mineral.*, 70, 197–199.