**Fingerite**  

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

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**Crystal Data:** Triclinic.  
**Point Group:** \( \overline{1} \). As crystals, to 150 \( \mu \)m, 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:** \( \overline{P\overline{T}} \).  
\( a = 8.1576(6) \) \( b = 8.2691(5) \) \( c = 8.0437(7) \)  
\( \alpha = 107.144(5)^\circ \) \( \beta = 91.389(7)^\circ \) \( \gamma = 106.441(5)^\circ \) \( Z = 1 \)

**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:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{V}_2\text{O}_5 )</td>
<td>39.65</td>
<td>39.67</td>
<td>38.41</td>
</tr>
<tr>
<td>( \text{CuO} )</td>
<td>59.3</td>
<td>59.53</td>
<td>61.59</td>
</tr>
<tr>
<td>Total</td>
<td>98.95</td>
<td>99.20</td>
<td>100.00</td>
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</tbody>
</table>

(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.


**References:**  