Hieratite

\[ \text{K}_2\text{SiF}_6 \]

**Crystal Data:** Cubic. *Point Group:* \( 4/m\overline{3}2/m \). As cubo-octahedra and octahedra; stalactitic concretionary, spongy to dense.

**Physical Properties:** *Cleavage:* \{111\}, perfect. Hardness = \( \sim 2.5 \) D(meas.) = 2.665 (synthetic). D(calc.) = 2.668 Soluble in H\(_2\)O.

**Optical Properties:** Transparent. *Color:* Colorless, white to gray; colorless in transmitted light. *Luster:* Vitreous. *Optical Class:* Isotropic. \( n = 1.340 \)

**Cell Data:** *Space Group:* \( Fm\overline{3}m \) (synthetic). \( a = 8.133 \) \( Z = 4 \)

**X-ray Powder Pattern:** Synthetic. 4.699 (100), 2.349 (70), 2.877 (65), 2.034 (50), 1.438 (16), 1.565 (14), 1.661 (12)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>35.4</td>
<td>35.50</td>
</tr>
<tr>
<td>Si</td>
<td>12.7</td>
<td>12.75</td>
</tr>
<tr>
<td>F</td>
<td>51.9</td>
<td>51.75</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Vulcano, Italy. (2) \( \text{K}_2\text{SiF}_6 \).

**Occurrence:** As a deposit around volcanic fumaroles.

**Association:** Sassolite, mirabilite, glauberite, selenian sulfur, realgar, alums (Vulcano, Italy); avogadrite, malladrite (Vesuvius, Italy).

**Distribution:** In Italy, on Vulcano, Lipari Islands, and from Vesuvius, Campania.

**Name:** From the Greek *Hiera*, an ancient name for Vulcano.

**Type Material:** n.d.