### Eirikite

**Formula:** $\text{KNa}_6[\text{Be}_2(\text{Si}_{15}\text{Al}_3)_{\Sigma=18}\text{O}_{39}\text{F}_2]$

**Crystal Data:** Hexagonal.  
**Point Group:** $\overline{3}2/m$.  
As acicular prismatic crystals, displaying {1010} and {0001}, that occur in either finely or coarsely fibrous aggregates to 3 cm.

**Physical Properties:**  
**Cleavage:** Good on {1010}.  
**Fracture:** Uneven to conchoidal.  
**Tenacity:** Brittle.  
$D(\text{meas.}) = 2.59(1)$  
$D(\text{calc.}) = 2.577$  
**Hardness:** 6

**Optical Properties:** Translucent.  
**Color:** White to colorless.  
**Streak:** White.  
**Luster:** Vitreous to silky.  
**Optical Class:** Uniaxial (+).  
$\omega = 1.517(1)$  
$\epsilon = 1.521(1)$

**Cell Data:**  
**Space Group:** $P\overline{3}m1$.  
$a = 14.3865(9)$  
$c = 4.8733(4)$  
$Z = 1$

**X-ray Powder Pattern:** Vesle Arøya island, Langesundsfjord district, Larvik, Vestfold, Norway.  
3.161 (100), 3.386 (70), 2.466 (31), 4.710 (29), 4.153 (21), 2.217 (20), 2.398 (19)

**Chemistry:**

<table>
<thead>
<tr>
<th>Element</th>
<th>Formula</th>
<th>Moles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na$_2$O</td>
<td></td>
<td>13.38</td>
</tr>
<tr>
<td>K$_2$O</td>
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<td>3.13</td>
</tr>
<tr>
<td>Al$_2$O$_3$</td>
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<td>11.08</td>
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<tr>
<td>SiO$_2$</td>
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<td>66.03</td>
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<tr>
<td>F</td>
<td></td>
<td>2.70</td>
</tr>
<tr>
<td>BeO</td>
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<td>[3.65]</td>
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<tr>
<td>-O=F</td>
<td></td>
<td>1.14</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>98.83</td>
</tr>
</tbody>
</table>

(1) Vesle Arøya island, Vestfold, Norway; average of 5 electron microprobe analyses supplemented by IR spectroscopy, BeO calculated from structure analysis; corresponds to $K_{0.91}Na_{5.92}$  
$[Be_2(Si_{15.07}Al_{2.98})_{\Sigma=18.05}]O_{39}(F_{1.95}O_{0.05})$.

**Mineral Group:** Leifite group.

**Occurrence:** A late-stage hydrothermal mineral in a dike of nepheline syenite pegmatite.

**Association:** Microcline, zircon, aegirine, polythionite, albite, eudialyte, catapleiite, pyrochlore.

**Distribution:** From Vesle Arøya island, Langesundsfjord district, Larvik, Vestfold, Norway; also from Tugtup Agtakorfia, Ilimaussaq, South Greenland, and in the Sodovyi crosscut, Kukisvumchorr, Khibiny and at Alluav Mountain, Lovozero Complex, Kola Peninsula, Russia.

**Name:** Honors the Viking Eirik Raude (Eric the Red, born ~950, died ~1003), Norwegian emigrant, the discoverer of Greenland, and father of Leiv (Leif) Eirikson, for whom leifite was named.

**Type Material:** Department of Geology, Natural History Museum, University of Oslo, Norway (# 41773).

**References:**  