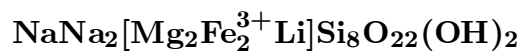


Leakeite



©2001 Mineral Data Publishing, version 1.2

Crystal Data: Monoclinic. *Point Group:* $2/m$. Anhedral crystals, prismatic along [001], to 1 mm, bounded by cleavage planes and terminated by irregular fracture surfaces.

Physical Properties: *Cleavage:* Perfect on {110} [intersecting at $\sim 56^\circ$ and $\sim 124^\circ$].
Fracture: Irregular. *Tenacity:* Brittle. *Hardness* = 6 *D*(meas.) = 3.11 *D*(calc.) = 3.107

Optical Properties: Translucent. *Color:* Deep red. *Streak:* Very pale pink.

Luster: Vitreous.

Optical Class: Biaxial (-). *Pleochroism:* Strong; $X \simeq Y$ = dark mauve-red; Z = light pinkish red. *Orientation:* $Z = b$; $X \wedge c = 10^\circ$; $Y \wedge a = 4^\circ$. *Dispersion:* $r \ll v$, strong. *Absorption:* $X \simeq Y > Z$. $\alpha = 1.667(1)$ $\beta = 1.675(1)$ $\gamma = 1.691(1)$ $2V(\text{meas.}) = 59^\circ\text{--}71^\circ$ $2V(\text{calc.}) = 72(10)^\circ$

Cell Data: *Space Group:* $C2/m$. $a = 9.822(3)$ $b = 17.836(6)$ $c = 5.286(2)$
 $\beta = 104.37(3)^\circ$ $Z = 2$

X-ray Powder Pattern: Kajlidongri mine, India.

3.122 (100), 8.399 (56), 2.798 (48), 3.254 (20), 3.383 (18), 2.696 (15), 4.461 (13)

Chemistry:

	(1)
SiO ₂	55.80
TiO ₂	0.03
Al ₂ O ₃	1.27
Fe ₂ O ₃	12.23
Mn ₂ O ₃	3.86
MgO	10.96
CaO	0.50
Li ₂ O	[1.42]
Na ₂ O	9.69
K ₂ O	1.12
F	1.08
H ₂ O	[1.63]
-O = F ₂	0.45
Total	[99.14]

(1) Kajlidongri mine, India; by electron microprobe, average of six analyses, Li and H₂O calculated from stoichiometry, original total given as 99.11%; corresponds to $(\text{Na}_{2.67}\text{K}_{0.20}\text{Ca}_{0.08})_{\Sigma=2.95}(\text{Mg}_{2.32}\text{Fe}_{1.31}^{3+}\text{Li}_{0.81}\text{Mn}_{0.42}^{3+}\text{Al}_{0.14})_{\Sigma=5.00}(\text{Si}_{7.98}\text{Al}_{0.07})_{\Sigma=8.00}\text{O}_{22}[(\text{OH})_{1.49}\text{F}_{0.51}]_{\Sigma=2.00}$.

Mineral Group: Amphibole (alkali) group: $\text{Na}_B \geq 1.34$; $\text{Li}_C \geq 0.5$; $\text{Fe}^{3+} > \text{Mn}^{3+}$.

Occurrence: In a metasediment rich in manganese minerals, crosscut by epigenetic veins.

Association: Albite, braunite, bixbyite.

Distribution: In the Kajlidongri manganese mine, Jhabua district, Madhya Pradesh, India.

Name: To honor Bernard E. Leake, Professor of Geology, Glasgow University, Glasgow, Scotland, for his work on amphiboles.

Type Material: Canadian Museum of Nature, Ottawa, Canada.

References: (1) Hawthorne, F.C., R. Oberti, L. Ungaretti, and J. Grice (1992) Leakeite, $\text{NaNa}_2(\text{Mg}_2\text{Fe}_2^{3+}\text{Li})\text{Si}_8\text{O}_{22}(\text{OH})_2$, a new alkali amphibole from the Kajlidongri manganese mine, Jhabua district, Madhya Pradesh, India. *Amer. Mineral.*, 77, 1112–1115.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Mineral Data Publishing.