Lepidolite  K(Li, Al)₃(Si, Al)₄O₁₀(F, OH)₂

Crystal Data: Monoclinic. Point Group: 2/m or m (1M). Tabular to prismatic pseudohexagonal crystals, commonly with rounded terminal faces, to 20 cm. In coarse to fine scaly aggregates and massive. Twinning: Rare, composition plane {001}, twin axis [310].

Physical Properties: Cleavage: {001}, perfect. Tenacity: Flexible, elastic. Hardness = 2.5–4 D(meas.) = 2.8–2.9 D(calc.) = 2.693


Cell Data: Space Group: C2/m (1M). a = 5.209(2) b = 9.011(5) c = 10.149(5) β = 100.77(4)° Z = 2

X-ray Powder Pattern: Topsham, Sagadahoc Co., Maine, USA; 1M. (ICDD 10-485). 3.34 (100), 10.0 (75), 4.99 (75), 3.62 (75), 3.08 (75), 2.578 (75), 1.992 (60)

X-ray Powder Pattern: Gunnison Co., Colorado, USA; 2M₂. (ICDD 14-11). 2.577 (100), 1.989 (80), 10.0 (60), 5.0 (50), 4.5 (50), 3.62 (50), 3.48 (50)

Chemistry:

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<tr>
<td>SiO₂</td>
<td>48.58</td>
<td>51.45</td>
<td>K₂O</td>
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<td>Al₂O₃</td>
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<td>Fe₂O₃</td>
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<td>MnO</td>
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<td>MgO</td>
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<td>H₂O⁻</td>
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<td>CaO</td>
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<td>−O = F₂</td>
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<td>Li₂O</td>
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<td>Na₂O</td>
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(1) Stewart mine, Pala, California, USA; TiO₂ trace; corresponds to (K₀.₈₅Na₀.₁₅Rb₀.₀₄)Σ=1.₀₀ (Al₁.₅₆Li₀.₉₉Mn₀.₅₆)Σ=2.₅₄(Si₃.₂₃Al₀.₇₇)Σ=₄.₀₀O₁₀[(OH)₁.₄₁F₁.₀₄]Σ=2.₁₈. (2) Radkovic, Czech Republic; remainder includes traces of Ga₂O₃, Cr₂O₃, and Ti₂O₃; corresponds to (K₀.₇₉Rb₀.₀₇ Na₀.ₐ₃Ca₀.ₐ₁)Σ=0.₉₃(Li₁.₄₈Al₁.₃₅Mg₀.ₐ₅Mn₀.ₐ₃Fe₃⁺ₐ₁)Σ=2.₈₇(Si₃.₉₄Al₀.₅₁)Σ=₄.₀₀O₁₀(F, OH)₂

Polymorphism & Series: 1M, 2M₂, 3A polytypes common; 2M₁, 3M₂ rare; a group name.

Mineral Group: Mica group.

Occurrence: In granite pegmatites, derived by metasomatic replacement of muscovite or biotite; in some high-temperature quartz veins, greisens, and granites.

Association: Spodumene, elbaite, amblygonite, columbite, cassiterite, topaz, beryl, micas.

Distribution: At Rožná, near Bystrice, Czech Republic. From Alabashka, Ural Mountains, Russia. In the Varutrask pegmatite, 15 km northwest of Skellefteå, Västerbotten, Sweden. In the USA, at Mt. Mica, near París, Oxford Co., and Auburn, Androscoggin Co., Maine; in the Mesa Grande and Pala districts, San Diego Co., California; from the Brown Derby pegmatite, Gunnison Co., Colorado; in the Ingersoll mine, near Keystone, Pennington Co., South Dakota. From the Tanco mine, Bernic Lake, Manitoba, Canada. At Maharita, Mt. Bity, Madagascar. From Bikita, 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.
Zimbabwe. In India, at Hazaribagh, Bihar. From the Virgem da Lapa pegmatite, Minas Gerais, Brazil.

**Name:** From the Greek *lepidos* for *scale*, in allusion to its micaceous structure.

**References:**  