

## Köttigite (Koettigite) - Parasymplesite - $\text{Zn}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$

Hardness: 2.5 - 3. Cleavage: Perfect. Insoluble in water. Attacked by acids including  $\text{HNO}_3$  and  $\text{H}_3\text{PO}_4$ . Chemical tolerance varies unpredictably with composition. One sample turned darker when treated with Jacquard Hydro, but color was restored upon thorough drying. Soluble in alkalis. Remove enclosing gypsum with toilet tank or ion exchange procedures.

Köttigite and its iron analog parasymplesite -  $\text{Fe}^{2+}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$  are visually indistinguishable and may be intergrown. These minerals are expected to have similar chemical and physical properties. Data given here is for köttigite.

### References

Mindat: <https://www.mindat.org/min-2263.html>

Handbook of Mineralogy: <https://www.handbookofmineralogy.org/pdfs/kottigite.pdf>

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Weast, R., Ed. (1982) CRC Handbook of Chemistry and Physics, 2380 p., CRC Press, Inc., Cleveland.