

## Spinel - $\text{MgAl}_2\text{O}_4$

Hardness: 7.5 - 8. Cleavage: None observed. Excellent, broad resistance to common mineral cleaning chemicals. The powder is slightly attacked by hot concentrated  $\text{H}_2\text{SO}_4$ . Slightly soluble in dilute  $\text{HCl}$ ; use this acid to remove enclosing calcite but minimize exposure. Insoluble in  $\text{HNO}_3$ . Tolerates Iron OUT/EDTA.

Varieties/related species (treat same as spinel): Pleonaste

### References

Mindat: <https://www.mindat.org/min-3729.html>

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

Hardinger, S. (2025) Mineral Specimen Cleaning and Development for the Amateur, 339 p.

Sinkankas, J. (1972) Gemstone & Mineral Data Book, 346 p. Winchester Press, New York.

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