

# Calcite - $\text{CaCO}_3$

Hardness = 3. Cleavage: Perfect. Thermal shock damage possible. Easily scratched and cleaved. Take care with forceful mechanical cleaning methods such as the textile gun. Can be gently brushed with a nylon brush but not a metal brush. Readily soluble in all acids to some extent. Small nicks and bruises can be repaired by application of acid from eyedropper followed by immediate and thorough rinsing. Etched by  $\text{CO}_2$  dissolved in water, even freshly opened bottle of distilled water, but prevented at high pH. Best cleaned in hard water instead of distilled water as the former may already have a high  $\text{Ca}^{2+}$  concentration. May be delustered by any dithionite recipe due to chelators or dissolved  $\text{CO}_2$ ; use only Jacquard Hydro and minimize contact time. Immediately and vigorously attacked by  $\text{NH}_4\text{HF}_2$ . Etched by  $\text{HONH}_2$  (hydrochloride or sulfate) but not when alkaline (pH 13). Bleach is said to cause "slight discoloration." Tolerates sonication but watch for pre-existing cracks. To remove calcite, see Hardinger (2025).

## References

Mindat: <https://www.mindat.org/min-859.html>

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

Duthaler, R. (2003) Cleaning Calcite and Aragonite in Calcite, ExtraLAPIS English No. 4.

Lithographie, LLC. East Hampton, Connecticut. pp 104–105.

Gol, D. (2004c) The prospector's corner mineral collection preparation: Various recipes and "your own" from preparers. *Le Regne Mineral*, 60 (6), 31–34. In French.

Hardinger, S. (2024a) Selective removal of carbonates: A preliminary study.

[www.mindat.org/a/hardinger005](http://www.mindat.org/a/hardinger005).

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

King, R. (1983) The care of minerals section 2: The development of minerals. *Journal of the Russell Society*, 1 (2), 54–77.

Rohner, T. (2000) Properly clean minerals online cleaning book.

[www.strahlen.org/stepbystep/mineralien-reinigung2.pdf](http://www.strahlen.org/stepbystep/mineralien-reinigung2.pdf). In German.

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

Sury, E. (1991) Cleaning Minerals Properly: A Guide to the Cleaning and Conservation of Minerals, 66 p. Sektion Basel SVSM, Basel. In German.