Titanite (Sphene) - $CaTi(SiO_4)O$

Hardness: 5 - 5.5. Cleavage: Distinct/good. Some authors recommend avoiding sonication while others indicate sonication is tolerated. Slowly attacked by warm concentrated H_2SO_4. Slightly attacked by warm concentrated HCl. Safe to use dilute HCl to remove calcite. Tolerates all dithionite recipes as well as hot oxalic acid. Stable to hot alkali.

Varieties/related species (treat same as titanite): Keilhauite

References

Mindat: https://www.mindat.org/min-3977.html

Handbook of Mineralogy: https://www.handbookofmineralogy.org/pdfs/titanite.pdf

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

Rohner, T. (2000) Properly clean minerals online cleaning book. www.strahlen.org/stepbystep/mineralien-reinigung2.pdf. In German.

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