

Columbite - Tantalite group - $(\text{Mn,Fe})(\text{Ta,Nb})_2\text{O}_6$

Hardness = 6. Cleavage: Distinct/good. May be fractured in situ and thus liable to disintegrate on sonication. Free-standing crystals (formed in a cavity) are generally more robust than crystals frozen in matrix. Some crystals metamict (look for radiation halo). May be radioactive. Crystals essentially inert to all acids, whereas powder may be decomposed by hot concentrated acids. Tolerates Iron OUT/EDTA.

A group of minerals. Niobium-dominant = columbite. Tantalum-dominant = tantalite. Both end members can also be iron-rich: columbite-(Fe) or tantalite-(Fe) or manganese-rich: columbite-(Mn) or tantalite-(Mn). Data is given for columbite-(Fe). Treat all group members as if they are columbite.

References

Mindat: <https://www.mindat.org/min-1514.html>

Handbook of Mineralogy: <https://www.handbookofmineralogy.org/pdfs/ferrocolumbite.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.