

## **Joaquinite group - $\text{NaBa}_2\text{Ce}_2\text{FeTi}_2[\text{Si}_4\text{O}_{12}]_2\text{O}_2(\text{OH},\text{F})\cdot\text{H}_2\text{O}$**

Hardness: 5 - 5.5. Cleavage: Distinct/good. Inert to concentrated HCl even on prolonged exposure. Stable to  $\text{NH}_4\text{HF}_2$  for at least three hours.

A group of similar minerals expected to have similar physical and chemical properties. Data given for joaquinite-(Ce).

### References

Mindat: <https://www.mindat.org/min-29237.html>

Handbook of Mineralogy: <https://www.handbookofmineralogy.org/pdfs/joaquinite-Ce.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.