

Autunite - $\text{Ca}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 10\text{-}12\text{H}_2\text{O}$

Hardness = 2 - 2.5. Cleavage: Perfect. Radioactive. Very fragile and friable; avoid cleaning if possible. If cleaning is needed rinse briefly only in distilled water when fresh from the ground. Remove dust and other loose debris with gentle gas stream. Soluble HNO_3 and other acids. Material that has been out of the ground for some time may not tolerate wetting. Dehydration and subsequent crumbling may possibly be avoided by coating with lacquer, polyurethane, Paraloid B-72 or Duco cement (dilute solutions). Specimens from Hunan Province, China have been stabilized with 5% Butvar B-76 or two treatments with 10% Paraloid B-72. Store in closed container with moistened paper to slow dehydration. Susceptibility to disintegration varies by locality; small tabular crystals liable to fall apart but large crystals from Washington may be more stable. Dehydrated samples may appear stable but prone to disintegration when rehydrated.

References

Mindat: <https://www.mindat.org/min-433.html>

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