

## Azurite - $\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$

Hardness = 3.5 - 4. Cleavage: Perfect. Brittle; easily broken or dislodged from matrix. Avoid scrubbing with toothpaste (some formulations include an abrasive) or any abrasive cleaner. Slowly attacked by hot water. Quickly attacked by acids. Soluble in strong  $\text{NH}_3$ . Clean in distilled water with least amount of wetting agent. Avoid prolonged exposure to strong detergent, soaps,  $\text{NH}_3$  and alkaline cleaning solutions. Tolerates sonication. There is no known method to derust without also damaging the azurite. Dithionite causes a rapid metallic copper precipitate although this can often easily be removed. Quickly attacked to some extent by most acids including acetic acid and formic acid. Bruises may sometimes be 'healed' by localized application of a few drops of dilute HCl followed by an immediate and thorough rinse. Quickly attacked by  $\text{NH}_4\text{HF}_2$ .

### References

Mindat: <https://www.mindat.org/min-447.html>

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

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

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