

Quartz - SiO₂

Hardness: 7. Cleavage: Poor/indistinct. Thermal shock sensitive, especially when inclusions are present or at crystal junctures. Tolerance to sonication varies with variety and specimen delicacy but overall tolerance is excellent. Some authors caution that inclusions increase risk of sonication damage, but this may actually be a thermal shock issue more than a sonication issue; best to be cautious and minimize sonication time when inclusions or cracks are present. Overall excellent chemical resistance. Insoluble in water. Not attacked by any of the common mineral cleaning acids. Excellent tolerance for all dithionite recipes, hot oxalic acid, 10% H₃PO₄ and hot concentrated HCl. Stable to hot alkali (with or without added TKPP) but prolonged treatment may cause etching so minimize exposure. Undiluted Dawn Ultra dish soap at 60–80°C for eight hours was used to remove montmorillonite clay. Some sources state that NH₄HF₂ etches quartz, but the effect is generally slow, with no change observed after 24–48 hours (but mass loss was seen after 9 days). Longer exposures (weeks to months) is said to cause frosting. NH₄HF₂ etches crystalline quartz more slowly than chalcedony or opal-AN.

Varieties/related species (treat same as quartz): Amethyst (may be photosensitive), carnelian, chalcedony, citrine, enhydro quartz, Herkimer diamond, jasper, milky quartz, morion, prase, rock crystal, rose quartz, rutilated quartz, smoky quartz, tiger's eye, tourmalinated quartz, window quartz (fenster quartz). Rohner reports morion may be photosensitive.

References

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