



### Condensation of Sodium Vapor and High-Temperature Reaction with Quartz Pore Inner Surface

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Sudden boiling of liquid sodium (b.p. = 1156 K at 1 atm) inside the all quartz-made smelting/evaporation chamber results in condensation and high-temperature reaction of sodium vapor with the inner wall surface. The attack and reaction becomes more aggressive with increasing vapor temperature. The condensation "fingerprints" express different color bands from **silver, metallic, milky, brown, orange, red, and black** with increasing level of the sodium attack and reaction on the surface.