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This study examined the binding behaviour of selected heavy and transition metal ions (Co$^{2+}$, Cu$^{2+}$ and Cd$^{2+}$) by silk fibres and powders using a highly sensitive radiotracer technique. Different silk degumming regimes were used, by changing the temperature, time and alkali concentration and studied their influence in binding. Ultrafine silk particles (d(0.5)=700 nm) were fabricated from degummed silk fibres using a combination of wet attritor milling, spray drying and air jet milling systems [1]. The results showed that binding was pH dependent and reversible. Rate of binding as well as the amount of metal bound was substantially higher for Non-Mulberry silk Eri and Muga compared to Mulberry silk. Binding increased substantially with the increase in alkali hydrolysis during degumming. Silk particles absorbed metal ions faster than fibres. Copper (II) binding was the fastest; nearly 100% of the Cu$^{2+}$ was bound at pH 8 within 5 minutes in some silk materials. Re-exposure studies showed that 45-100% of absorbed ions were released rapidly at pH 3 in 30 minutes. Comparison of the loading capacity of the sorbents with commercial resins under the same condition showed that the former absorbed metal ions more efficiently. Earlier study showed potential use of Mulberry silk fibres for separating actinide ions such as U$^{4+}$ and Th$^{4+}$. Results from the present study suggest that more efficient silk sorbents, Eri and Muga powders can be further investigated to study binding efficiency of actinide ions and other economically and environmentally relevant materials.