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Contrasting Hg abundances in meteorites from Antarctic and museum collections

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Mercury is a volatile element with a 50% condensation temperature that is only 70 K higher than that of H_2O. In meteorites from museum collections, Hg may be significantly contaminated, mainly due to the widespread use of Hg salts as pesticides in the preparation of biological museum specimens. Here, we compare Hg abundances in meteorites from Antarctic and museum collections using own and literature data. Museum samples range from below 10 to >10000 ng/g, with the highest values in CI, CM and H chondrites. In contrast, 38 Antarctic and 4 desert finds never contain more than 352 ng/g. Overall, Hg abundances in samples from museum collections are often 2 to 3 orders of magnitude higher than in comparable Antarctic samples. Values orders of magnitude higher in samples from museum collections are obviously due to terrestrial contamination. Thus, many Hg isotope and abundance data derived from museum samples are not relevant for early solar system studies. Data from Antarctic carbonaceous chondrites suggests that Hg does not behave like other highly volatile elements (e.g. Cd).

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