USGS44 Calcium Carbonate

USGS44 high purity calcium carbonate is an internationally distributed isotopic reference material intended for $\delta^{13}C$ use. It is NOT recommended for $\delta^{18}O$ measurements because it is too fine and can exchange with atmospheric moisture. Currently, it is undergoing value assessment by a group of laboratories. 

Brand et al. (2014) recommend that $\delta^{13}C$ values be expressed on a carbon isotope-delta scale anchored by assigning values of +1.95 ‰ to NBS 19 calcium carbonate and –46.6 ‰ to LSVEC lithium carbonate. On this scale the current value of USGS44 is –42.2 ‰. Authors should state the values accepted for isotopic reference materials in their publications. In this manner, readers can re-normalize their results in the future if scales change.

It is no longer recommended that authors analyze LSVEC lithium carbonate because it can change $\delta^{13}C$ value over time (Assonov, 2018).

References


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