

SRM 915c calcium carbonate mass fraction standard

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Credit: National Institute of Standards and Technology

This standard reference material from the National Institute of Standards and Technology (NIST) will help calibrate procedures for calcium determinations used in clinical analysis and for routine critical evaluation of the daily working standards applied in these procedures. Additionally, the certified values can be used to validate analytical methods for determining calcium and carbonate.

NIST has released a mass fraction reference material for calibrating the instruments used by a wide variety of manufacturers. Mass fraction of a

substance is the ratio of mass of the substance to the total mass.

Calcium carbonate is a [chemical compound](#) with the formula CaCO_3 . The coulometric assay value was obtained by automated back-titration using coulometrically-standardized hydrochloric acid (HCl) as the excess added substance, with potentiometric detection of the strong acid endpoint after removal of evolved [carbon dioxide](#) (CO_2) and correcting for trace impurities. The gravimetric assay value was obtained by conversion to CaSO_4 and correcting for trace impurities in the CaSO_4 .

A unit of SRM 915c consists of a single glass bottle containing approximately 20 g of material. The original unopened bottles of SRM 915c should be stored at room temperature ($25\text{ }^\circ\text{C} \pm 10\text{ }^\circ\text{C}$). An open bottle must be protected from moisture and acid vapors and can be reused until the material reaches its expiration date, provided that the open bottle is tightly re-capped and stored at room temperature.

More information: Thomas W Vetter, Certification of Standard Reference Material® 915c Calcium Carbonate, (2022). [DOI: 10.6028/NIST.SP.260-223](#)

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Provided by National Institute of Standards and Technology

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