

U. S. Department of Commerce
Elliot L. Richardson,
Secretary

National Bureau of Standards
Ernest Ambler, Acting Director

National Bureau of Standards

Certificate of Analysis

Standard Reference Material 1569

Brewers Yeast

This Standard Reference Material is intended for use in calibrating instrumentation and evaluating the accuracy of analytical methods for the determination of chromium in brewers yeast and other biological materials. SRM 1569 and like materials contain a volatile chromium component which presents an especially difficult analytical problem. Care should be taken to avoid its loss; see, "Preparation of Biological Materials for Chromium Analysis," W. R. Wolf and F. E. Greene [1].

*Chromium concentration: $2.12 \pm 0.05 \mu\text{g/g}$

*Calculated on a dry weight basis from determinations made on samples *without drying*. (See "Precautions" below.) A minimum sample size of 150 mg should be used.

The certified value is based on concordant results by independent analytical methods; the uncertainty is estimated from the imprecision of the methods and inhomogeneity of the material.

The overall direction and coordination of the technical measurements leading to this certificate were performed under the chairmanship of L. McClendon.

The technical aspects leading to the preparation, certification and issuance of this material were coordinated through the Office of Standard Reference Materials by R. Alvarez.

[1] Wolf, W. R. and Greene, F. E., Preparation of Biological Materials for Chromium Analysis, Proceedings of the 7th Materials Research Symposium, Accuracy in Trace Analysis: Sampling, Sample Handling and Analysis, NBS Spec. Publ. 422, U. S. Government Printing Office, Washington, D.C. (August 1976).

Washington, D.C. 20234
September 7, 1976

J. Paul Cali, Chief
Office of Standard Reference Materials

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Analyses were performed in the NBS Analytical Chemistry Division by L. McClendon (neutron activation) and by L. Dunstan and E. Garner (isotope dilution, mass spectrometry). Cooperative analyses were also made by W. R. Wolf, Nutrition Institute, U.S. Department of Agriculture, Beltsville, Md.

The material was furnished by the Nutrition Institute, U.S. Department of Agriculture, Beltsville, Md. At NBS, it was passed through a sieve having openings of 0.15 mm (U.S. Series 100 standard sieve) and blended.

Precautions:

(1) The analytical determinations should be made on samples *without drying*. The determinations should be corrected to a dry weight basis by heating separate samples at 85 °C for 3 hr to determine the weight loss.

(2) Samples should not be dissolved in open vessels.

Material Homogeneity was determined by a neutron activation technique using 150-mg random samples from bottled material representing different locations of the bulk material. The statistical test pattern was proposed by J. Mandel of the NBS Institute for Materials Research.

Stability:

The material should be kept in its original bottle and stored at temperatures between 10-23 °C. Exposure to moisture should be minimized by tightly capping the bottle immediately after use. Ideally, the bottle should be kept in a desiccator at the temperature indicated.