

Product No.: 45338

Bismuth Internal Standard

Matrix: Mineral Oil

Lot No.: 9168884

Expiry Date: September 30, 2020

Element	Concentration and Uncertainty		
Bi	Certified W/W	0.793 grams/liter	+/- 1% relative

Intended Use: This certified reference material is intended for use as an internal standard for the analysis of petroleum products or other organic matrices, using x-ray fluorescence (XRF), inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), or other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured and certified under an ISO 9001, ISO/IEC 17025, and ISO Guide 34 quality management system. This CRM was prepared to the certified concentration shown above by gravimetric methods using a single-element concentrate that is traceable to the NIST SRM listed below. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST. The certified concentration was determined based upon gravimetric procedures. Secondary verification of the certified concentration was performed using ICP-OES and these data are traceable to NIST SRM 3106. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Uncertified Values: ICP-OES was used to determine trace metal concentrations in this product.

Trace Concentrations (µg/g)

Pb <0.1

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) use a minimum sub-sample size of 500µL, (4) make dilutions using calibrated balances or certified volumetric class A flasks and pipettes, (5) dilute with the same matrix as the original CRM, and (6) never pour used product back into the original container. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or expose to direct sunlight. Minimize exposure to moisture or high humidity.

Period of Validity: Alfa Aesar guarantees the accuracy of this Specpure® solution until the expiry date shown above, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

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4/25/2019

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