

National Bureau of Standards

Certificate of Analysis

Standard Reference Material 1620

Sulfur in Residual Fuel Oil

Sulfur Content $4.48 \pm .02$ weight percent

This Standard Reference Material is intended for use as an analytical standard in the determination of sulfur in residual fuel oil. It is a commercially available fuel oil which has the following properties that are supplied for information only: specific gravity at 60 °F, 1.106; flash point, 158 °F; pour point, 34 °F; carbon residue (Ramsbottom), 3.8 weight percent; and viscosity at 100 °F (SSU) 508.9 sec.

Sulfur was determined by ion-chromatography after combustion in an oxygen bomb, and by using an oxygen bomb combustion coupled with a barium sulfate precipitation. No significant difference was observed between the two methods. The certified value is based on 18 determinations utilizing the two independent methods.

The estimated uncertainty represents a 95% confidence interval and includes the combined effects of method imprecision and material variability. Before use, it is recommended that SRM 1620 be shaken vigorously.

The residual fuel oil was supplied by Union Oil via Constance B. Sobel of Cabot Corporation, Billerica, Massachusetts. Analyses for certification were performed by W. F. Koch and E. R. Deardorff of the Inorganic Analytical Research Division.

The overall direction and coordination of the technical measurements leading to certification were performed under the chairmanship of E. L. Garner, Chief of the Inorganic Analytical Research Division.

The technical and support aspects involved in the preparation, certification, and issuance of this Standard Reference Material were coordinated through the Office of Standard Reference Materials by T. E. Gills.

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George A. Uriano, Chief
Office of Standard Reference Materials