U. S. Department of Commerce
Malcolm Baldrige
Secretary

National Bureau of Standards
Ernest Ambler, Director

National Bureau of Standards

Certificate of Analysis

Standard Reference Material 1543

GC/MS System Performance Standard

This Standard Reference Material (SRM) is intended primarily for use in evaluating the sensitivity of gas chromatography/mass spectrometry (GC/MS) instrumentation. SRM 1543 consists of four solutions; two concentrations of methyl stearate in hexane, and two concentrations of benzophenone in hexane.

The certified values are given below and are based on gravimetric values from the preparation of the solutions and on analytical values determined by gas chromatography. These values are valid between 18 and 28 °C. No evidence of sample heterogeneity was observed.

Certified Concentrations in SRM 1543

Compound	Concentration (ng/μL)[a]
Methyl Stearate (low)	0.99 ± .02
Methyl Stearate (high)	4.98 ± .08
Benzophenone (low)	1.01 ± .02
Benzophenone (high)	5.01 ± .07

[a]The certified values are for 23 °C. The ± uncertainties represent two standard deviations of the certified values plus an allowance for use of the SRM between 18 and 28 °C.

Storage: The sealed ampoules should be stored in the dark at temperatures between 10 and 30 °C. The certification is valid for one year from the date of purchase. Because storage conditions may affect the concentration, certified values are not applicable to material stored after opening even if stored in resealed containers.

Use: Ampoules should be brought to a temperature between 18 and 28 °C before opening and should be used without delay after opening. The volume used should be at least 0.1 μL and a syringe appropriate to the volume to be measured should be chosen. Care should be taken to minimize evaporation of the solvent.

Preparation and analytical determinations were performed by J.M. Brown-Thomas, R.G. Christensen, L.R. Hilpert, R.E.. Rebbert, and L.T. Sniegoski of the Organic Analytical Research Division, NBS Center for Analytical Chemistry.

Statistical analysis of the data was performed by R.C. Paule of the NBS National Measurement Laboratory.

The coordination of the technical measurements leading to certification was under the direction of S.N. Chesler, W.E. May, and E. White V of the Organic Analytical Research Division.

The technical and support aspects covering the preparation, certification, and issuance of this Standard Reference Material were coordinated through the Office of Standard Reference Materials by W.P. Reed.

Gaithersburg, MD 20899
August 15, 1984

Stanley D. Rasberry, Chief
Office of Standard Reference Materials

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Additional units of this SRM may be ordered through the:

Office of Standard Reference Materials
B311 Chemistry Building
National Bureau of Standards
Gaithersburg, MD 20899
Telephone: (301) 921-2045