

GLI Method Summary

Gas Chromatography Analysis

Governing SOP: GC-100H

Range: ppm-%

Analyte: Residual Solvents

Instrument	Hewlett-Packard Model 5890 or 6890 Gas Chromatograph
Analytical Column	J & W DB-624, 30 m/0.53 mm/5 µm
Detection	Flame ionization (FID)
Preparation	Samples are mixed well, weighed into crimped vials and dissolved in solvent.
Sample Intro	Headspace analysis, HP 7694 Sampler
Determination	Quantitation is generally performed by comparison to an external linear regression calibration curve. The instrument signal output is processed by HP ChemStation software.
Limit of Quantitation	The practical limit of quantitation is equal to the concentration of the lowest point of calibration divided by the amount of sample used in grams.
Quality Control Standard	A reference standard, independent from the calibration standard, is analyzed under the same conditions of the sample. Blanks and calibration verifications are analyzed at appropriate intervals.
Interferences	There are potential interferences from coeluting volatile compounds.
Calculations	External standard: $ppm = \frac{\text{mass of analyte } (\mu\text{g} / \text{mL} \times \text{dilution factor})}{\text{mass of sample } (g)}$

References

Operating Manual, HP 6890 Series Gas Chromatograph, Vol 1.3 Hewlett-Packard Co., 1996.

Understanding ChemStation, Hewlett-Packard Co., 1997.

Operating Manual HP Automatic Liquid Sampler, Hewlett-Packard Co., 1995.

Reference Manual HP 5890 Series and HP5890 Series II Plus Gas Chromatograph, Hewlett-Packard Co., 1993.

Operating Manual HP 5890 Series and HP5890 Series II Plus Gas Chromatograph, Hewlett-Packard Co., 1993.

Operating Manual HP 7673 Automatic Sampler, Hewlett-Packard Co., 1992.