

Agilent Intuvo 9000 GC Analyzer For Blood Alcohol Concentration

Technology advantage: Agilent Intuvo 9000
GC Analyzers



Introduction

Determination of blood alcohol concentration (BAC) requires rigorous control. While gas chromatographic systems configured with headspace samplers and flame ionization detection present the most straightforward analysis, the FID does not provide identification of the analytes. For that reason, a second system with a chromatographic column with different retentive properties is often used to provide confirmation of the analyte identification.

Determination and confirmation of BAC can be achieved on a single system with the Agilent Intuvo 9000 GC and Agilent 7697A Headspace Sampler.

The Agilent Intuvo 9000 GC Analyzer for Blood Alcohol Content adds to the Intuvo ease-of-use innovations by improving the application development process with proven Agilent-developed methods shipped with results from the factory.

Technology overview

- Application-specific factory solutions for using the Intuvo 9000 GC, 7697A Headspace Sampler, and Agilent Ultra Inert columns
- Analyzers are factory-configured and tested with complete flow path, method files, and factory test results
- Agilent factory test results are duplicated upon installation
- The Agilent Intuvo 9000 GC can be configured with an inlet splitter to allow dual column/dual detection analysis. By using Agilent DB-BAC Ultra Inert columns, analytes can be quantified and accurately identified by retention time.

Instrumentation

- Agilent 7697A Headspace Sampler
- Agilent Intuvo 9000 GC with inlet splitter and dual FIDs
- Agilent Ultra Inert capillary columns for Intuvo: DB-BAC1 UI (123-9334UI-INT) and DB-BAC2 UI (123-9434UI-INT)
- Tested at Agilent factory and after installation with Agilent Blood Alcohol Checkout Mix (5190-9765)

Results

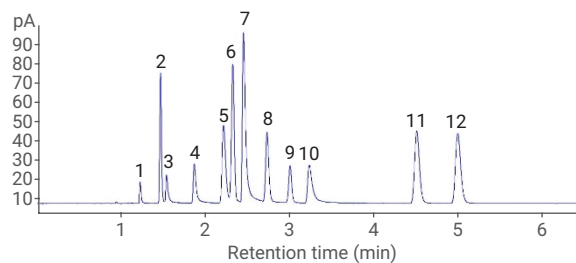


Figure 1. Agilent DB-BAC1 UI (123-9334UI-INT).

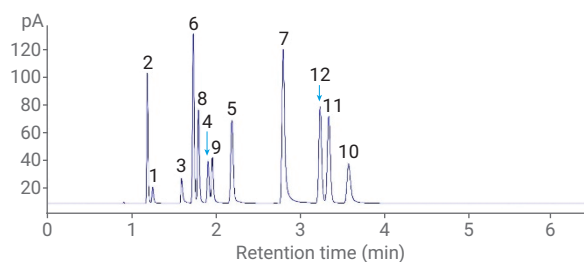


Figure 2. Agilent DB-BAC2 UI (123-9434UI-INT).

Chromatograms from an Agilent Intuvo 9000 GC Analyzer showing the Agilent Blood Alcohol Checkout Mix (5190-9765) on Agilent Ultra Inert capillary columns.

1. Methanol
2. Acetaldehyde
3. Ethanol
4. Isopropanol
5. *t*-Butanol
6. Propanal
7. *n*-Propanol
8. Acetone
9. Acetonitrile
10. 2-Butanol
11. Ethyl Acetate
12. 2-Butanone

Conclusion

- The Agilent Intuvo 9000 GC Blood Alcohol Analyzer, featuring the Agilent 7697A Headspace Sampler and Agilent Ultra Inert BAC columns, combines user-friendly operation and a small footprint.
- Proven hardware and application solutions save method development time, resulting in faster, trusted results.

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For Forensic Use.

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