

ROBUST SOLUTION FOR ROUTINE MONITORING OF ARSINE AND PHOSPHINE IN OLEFIN PRODUCTION

Agilent Arsine Phosphine GC/MS Analyzer

Metallocene catalysts used in the polymerization of ethylene (or propylene) to polyethylene (or polypropylene) are preferred for their very high activity but are very sensitive to impurities, even at low levels. Degradation of the catalyst can cause the production process to be shut down earlier than planned in order to replace the deactivated catalyst.

To monitor and maximize the lifetime of the catalyst, both ethylene/propylene producers and consumers need to monitor impurities at the lowest possible levels, such as low part-per-billion (ppb) concentrations for arsine and phosphine. Detection of these impurities at low-ppb levels is typically only achievable with a GC/ICP-MS (or GC/ICP-MS/MS), and labs often send samples to contract labs for analysis.

Measure impurities with confidence, in-house

Agilent's Arsine Phosphine GC/MS analyzer provides a robust solution for routine monitoring of arsine and phosphine impurities in olefin production at single-digit ppb concentrations. Based on 7890 GC and 5977B Mass Spec platforms, each system is factory pre-tested and pre-configured to perform sensitive analysis in monomer-grade ethylene and propylene. No specialized training is required for operation, allowing labs to quickly implement the system for low-level detection of impurities in olefins, in-house and with short turn-around times.



Use of innovative technology leads to excellent analytical performance:

- Single-digit ppb detection limits for arsine and phosphine in monomer-grade ethylene and propylene
- Innovative High Efficiency Source maximizes the number of ions that are transferred into the quadrupole analyzer, for highest sensitivity
- Patented JetClean Self-Cleaning Ion Source ensures long-term stability and high precision, along with reducing manual source cleaning frequency
- Agilent Inert Flow Path solutions ensure better results, and allow you to process more samples without unplanned maintenance and recalibration
- Optional, fully automated calibration system ensures simplified operation using G-Cal style permeation tubes

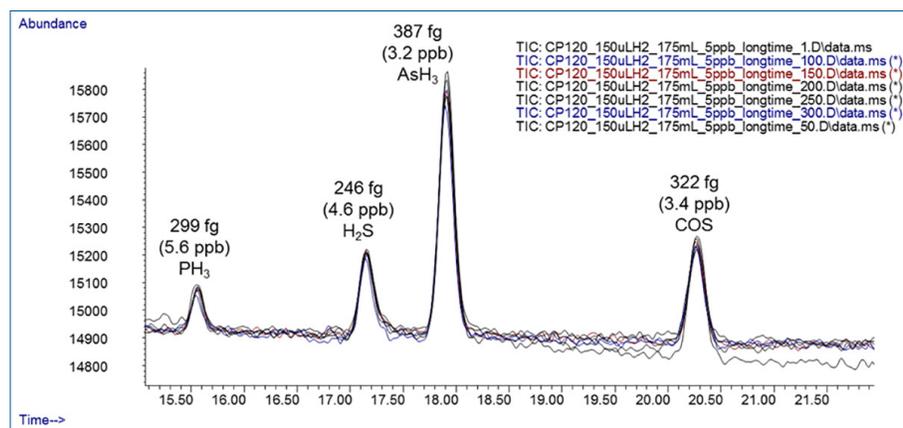
Agilent Arsine Phosphine GC/MS Analyzer

Analyzers are pre-configured and factory tested

Configured and tested GC/MS Analyzer for Arsine and Phosphine in olefins, with ability to also test hydrogen sulfide and carbonyl sulfide. Optimized and verified chromatographic performance with installed consumables and methods provides easy out-of-the-box operation and reduces the time you spend configuring individual components. Optional calibration system, using G-Cal style permeation tubes, provides automated calibration in the range of 5–50 ppb by running a simple 5 run sequence.

Each analyzer arrives ready to perform your application

On-site installation and check out of the Analyzer by a factory-certified technician confirms that your instrument and the application meet Agilent's analytical performance criteria. System familiarization ensures that your team is "ready to go" on day one and you can start calibration and validation work immediately following system installation



Overlays of the total ion chromatograms (TICs) for every 50th run out of 300 runs completed over 4.5 days with ~5 ppb concentration analytes in helium. Runs 1, 50, 100, 150, 200, 250, and 300 are shown.

Compound	% RSD (5 ppb, 300 runs)
PH ₃	4.23
H ₂ S	2.76
AsH ₃	2.30
COS	1.42

Repeatability of the above figures reported in % RSD.

Choose one of the following options when you order an Agilent 5977B Single Quadrupole GC/MS with an Agilent 7890B GC analyzer system:

Part No.	Description
M7484AA	Arsine Phosphine Analyzer complete with built-in calibration system
M7474AA	Arsine Phosphine Analyzer ready for user provided calibration

Optional:



MassHunter Software is a single powerful software solution for all Agilent MS platforms, saving training costs in multi-instrument labs.

Agilent CrossLab

Optional:

End to end laboratory support from the Agilent CrossLab service experts to deliver valuable insights and keep your instruments running at peak performance with minimal downtime. We offer solutions and service agreements that include transition services, application consulting, repair, preventative maintenance, compliance verification, education, and a host of other services tailored to meet your needs. Ask us how we can support your laboratory today!

Put your lab on the productivity *fast track*.

Contact your local Agilent representative or Agilent authorized distributor

Call **800-227-9770** (in the U.S. or Canada) or visit www.agilent.com/chem/arsine-phosphine

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