



Arsine Standards for Olefin Production Units

APPLICATION

Trace amounts of Arsine in polymer grade olefin feed stock adversely affect polymerization catalyst properties and lead to polymer contamination. Analyzers for part-per-billion (PPB) concentrations of Arsine provide continuous analysis of olefin streams and require exacting calibration / validation.

Typical monitoring points in an olefin/polyolefin plant include the feedstock, after propylene storage, downstream of Arsine scrubbers, and polymerization chamber vents. Contamination at any of these points can prove costly due to lost or off specification product.

Calibration / validation of analyzers to assure proper operation requires the introduction of Arsine in a PPB concentration to the analyzer assuring all portions of the sampling system are involved. Arsine is a very reactive molecule and is easily destroyed in the sampling system. Due to the low levels encountered, the calibration standard must be introduced to assure the compound reaches the analytical detector.

Static gas blends are reactive within the cylinder and a large volume is present, thus leaks release large quantities of toxic gases into the surrounding atmosphere. Arsine is toxic and dangerous to the technician.

Kin-Tek Laboratories, Inc. manufactures permeation devices to simplify the use and introduction of Arsine, other Hydride Gases, HCl, HBr, Oxygen, and CO.

Kin-Tek Laboratories systems utilize permeation devices to continuously add trace levels of the compound of interest to a diluent flow. Small amounts of the compound are present at low pressure. With a dynamically generated Arsine compound, standard addition calibration may also be easily accomplished. Lower levels require more frequent validation, rendering permeation devices less expensive than static blends.

Trace Source Permeation Tubes and associated instrumentation are NIST traceable.

MTI Analytical Technology is available to assist with environmental and process monitoring applications. Design, engineering, fabrication, installation, and commissioning may be accomplished, thus assuring integrity and performance of component units.

MTI Analytical Technology Products

Analyzers
Calibration / Validation Standards
Electrodes
Electrochemical Sensors
Emission Eliminators
Packaged Analytical Systems
Sample Handling / Conditioning Devices
Software Documentation Systems for Analyzers
Software for Continuous Emission Monitoring
Reporting

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