

**NATURAL GAS ODORIZATION CONFERENCE & EXHIBITION INCLUDING NON-CONVENTIONAL GAS,
LNG & LPG**

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Title:

Continuous monitoring of odorant compounds in vaporized LPG matrices by an autonomous process gas chromatograph

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Topics:

LP & LNG gas odorization

Abstract:

To alert in case of leakage, Liquid Propane Gas (LPG) is usually odorized with mercaptan additives such as Ethyl-Mercaptan, Tert-butyl mercaptan (TBM) and dimethyl sulfide (DMS). Continuous monitoring is required to ensure the effectiveness of the odorization process. However, this is a true challenge because of the complexity of the gas matrix. Moreover, the odorized liquid vapors may not be uniform due to the different boiling points of the species.

energy MEDOR is a well-known solution for sulfur-based odorants monitoring in Natural Gas in USA. It is compliant with ASTM D7493-14 standard. It allows the rapid and accurate analysis of H₂S, mercaptans, dimethyl sulfide (DMS) and/or Total Sulfur (TS) in gas. It consists of an automatic process Gas Chromatograph equipped with Sulfur Specific Electrochemical wet cell Detector (auto-GC-ED) which only reacts with sulfur compounds without interferences and providing excellent linearity at ppb or ppm or even at low % concentrations. When associated with a dedicated sampling system developed by Chromatotec, representative liquid samples are extracted directly from the LPG matrix.

It is available with dedicated configuration for safe and hazardous areas (ATEX, IECEx, CSA and CSA international certifications) including an integrated N₂ generator. Its simplicity for online application in refineries and petrochemical plants is achieved thanks to its flameless detector. Nitrogen is used as the carrier gas: no Hydrogen required.

This reliable, simple and robust turnkey solution is fully autonomous thanks to the integrated gas generators to avoid the need for gas cylinders and embedded internal calibration for automatic data validation. Moreover, this process device is designed for very low maintenance requirements.