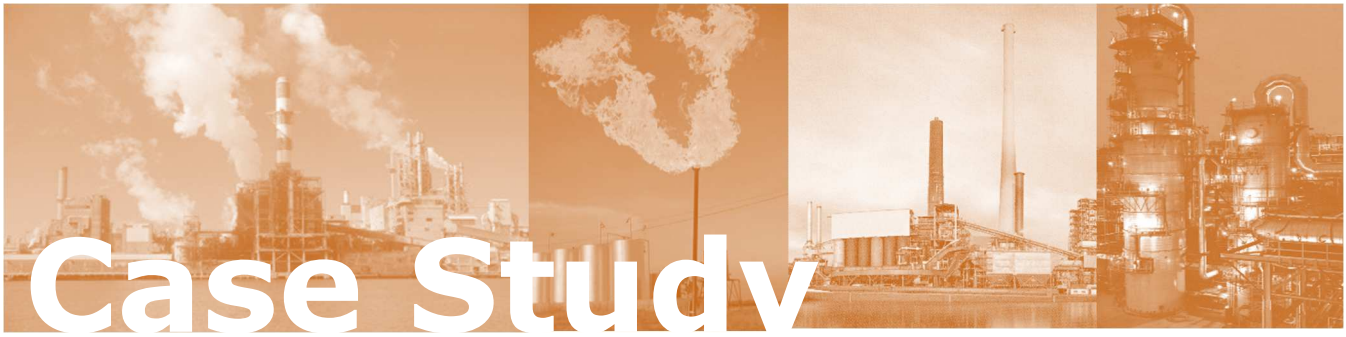

Analysis and monitoring of the content of sulfur compounds in the gaseous effluents of a paper mill

Context & challenges

The paper industry is highly recognized for odor nuisance generated by the process of manufacturing paper pulp, cardboard or other products derived from wood, as well as the reagents used in these processes.

Following the publication of a ministerial decree on September 10, 2020, French manufacturers in the paper sector must respect with compliance requirements on the quality of the discharges of hazardous substances into the air, in particular sulfur compounds, from installations classified for environmental protection. Industrial sites are particularly targeted by these new guidelines and must adapt their monitoring systems.
More information :Extrait de l'arreté ministériel du 10/09/2020 / NOR : TREP2013116A

Chromatotec® solution

Chromatotec® has developed continuous analysis solutions for monitoring of odorous molecules such as sulfur compounds. These control systems can be deployed at several locations on the industrial site, such as near outlet of smoke extraction chimneys, around the washing and bleaching processes, near outlet from lime kilns and regeneration boiler (BWE).

Several paper mills in France and around the world are now equipped with our trsMEDOR® solution allowing the identification and quantification of H2S, SO2, DMDS, DES and DMS, mercaptans: MM, EM from a few ppb and up to several %. Other compounds are available on request.

This chromatograph is equipped with an electrochemical detector specific to sulfur compounds, a nitrogen generator, and an internal calibration module offering a 100% autonomous and automated solution requiring only a power supply. Integrated into a thermoregulated box (*in option*), this turnkey solution has an industrial computer at eye level as well as an automatic calibration module allowing the device to be calibrated and/or validated in ppb and/or ppm. A two ways sampling system, with double automatic injection loop is available as an option in order to be able to analyze with the same device the input and the output of a filter for example.

The trsMEDOR® is also used on industrial sites such as wastewater treatment plants, recovery of organic matter or even food production sites, in the context of monitoring the levels of odorous compounds in the ambient air or channeled flows.

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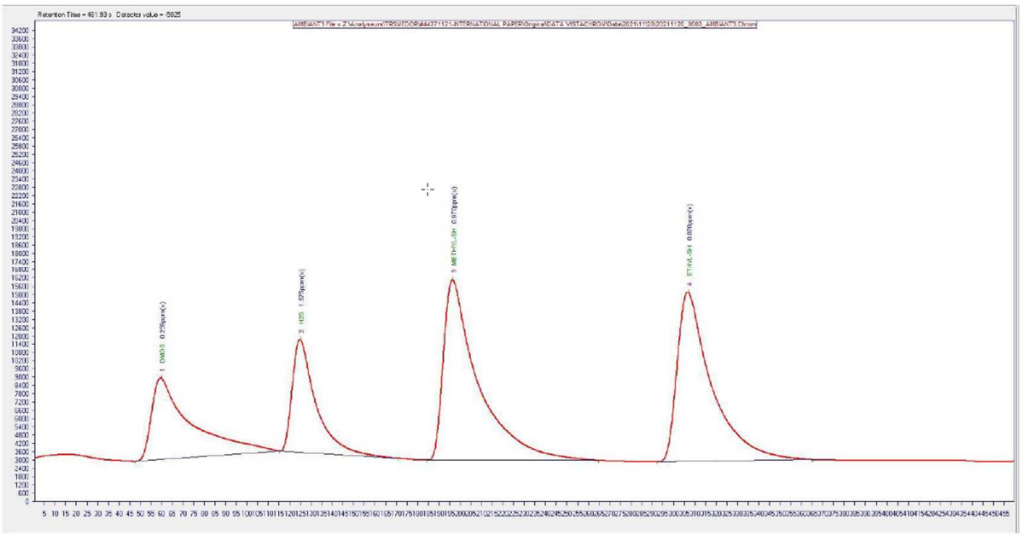
www.chromatotec.com

Chromatogramme obtenu avec le *trsMEDOR®* : Analyse du DMDS, H2S, Methyl et Ethyl Mercaptans



Ease of use

- No auxiliary gas needed for operation and calibration (air supplied by built-in generator)
- Reliability and linearity of the ED detector
- Analysis of the sample at atmospheric pressure using the sampling pump
- Automatic internal calibration with permeation tubes certified at ppb or ppm level

Data acquisition and processing

The data is automatically collected by our proprietary VistaCHROM software and interface and stored in the internal computer. Data such as concentrations, retention times or analyzer status can be transferred by Modbus protocol or 4-20mA analog output, directly to a supervision room. With the integrated LCD color touch screen, editing, viewing, reprocessing and transferring chromatograms is much easier. A calculation module, as an option, makes it possible to manage the results to carry out a daily average of the concentrations, of the retention times, of the selected compounds, to produce DREAL type reports, etc…

Summary

- Stand-alone solution
- Speciation of compounds via online gas chromatography
- Linearity results for each compound
- Robust instrument with low maintenance required
- State-of-the-art PC and software solutions (Modbus, calculation modules, embedded Windows software)
- Integrated calibration device with permeation tube for automatic data validation
- Analysis in ppb, ppm or %