EXPERTS IN GAS ANALYSIS

Le Bulletin

Issue – June 2009

SUMMARY

EXHIBITIONS 2009

MCERTS 2009 - UK
Bretby - 29 – 30 April 2009
http://www.mcerts.uk.com/

ACHEMA 2009 – GERMANY
Frankfort - 11 - 15 May 2009
http://www.achema.de/

WREC – THAILAND
Bangkok – 20 – 23 May 2009
http://www.thai-exhibition.com/entech/

CIEPEC 2009 – CHINA
Beijing – 3 – 6 June, 2009
http://www.chinaenvironment.org/

AWMA 2009 – USA
Détroit – MI - 16 – 19 June 2009
http://www.awma.org/ACE2009/

Congrès International de métrologie – FRANCE
Paris –22 – 25 June 2009
http://www.metrologie2009.com/

ASGMT - USA
Houston – 21 – 24 September 2009
http://www.asgmt.com

CEM – ITALY
Milan –23 – 25 September 2009

WGC – ARGENTINA
Buenos Aires – 5-9 October 2009
http://www.igu.org/wgc2009

CERTECH - BELGIUM
Brussels – 7-8 October 2009
http://www.certech.be/

POLLUTEC 2009 – FRANCE
Paris – 1 – 4 December 2009
http://www.pollutec.com/

NEW ASTM D7493-08 and EXP medor

Wall-mounted MEDOR

Gaseous fuels, such as natural gas, petroleum gases and bio-gases, contain varying amounts and types of odorous sulfur compounds.
The accurate on-line measurement of these compounds is essential to gas processing, operation and utilization, and of regulatory interest.

Option *Ex*

ASTM has recently developed a new Standard TEST METHOD for online Measurement of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Electrochemical detection.

The energymedor manufactured by Chromatotec is the perfect equipment to fulfill this new ASTM method. Some of the features of the analyzer are: separation by chromatography technique, user friendly software, auto-calibration, calibration on each analysis via permeation tubes for safety reasons, robustness and reliability.

Now, Chromatotec has also engineered and manufactured the new EXP Medor designed to operate in hazardous area environment such as Class I, Division 2, group C &D.

Process optimisation

Sulfur compounds such as hydrogen sulphide or mercaptans are present in the industrial environment.
They generate not only smells to be treated in an environmental purpose but also represent an important risk of toxicity.
We find them for example in the water in fermentation and consequently throughout the process of waste water in treatment plant.
For optimisation of deodorization installation we analyse before and after chemical cleaning with the **chroma S** analyser
We can find typically this type of concentrations:

Sulfur pollutants to be treated	Maximum concentrations inlet (mg/m3)	Average concentrations inlet (mg/m3)	Guaranties outlet (mg/m3)
H2S	10	2	0,07
R-SH	1,5	0,5	0,04
Total Sulfur	12	2,5	0,12

A&WMA'S 102ND ANNUAL CONFERENCE & EXHIBITION
DETROIT 09
DRIVING ENVIRONMENTAL PROGRESS

Booth #322

FENCELINE MONITORING FOR VOCs AND SULFURS

Chromatotec offers an automatic and turn-key solution to monitor pollutants in ambient air on the outskirt of a factory.

The system combines 2 airmoVOC analyzers (C_2 to C_6 and C_6 to C_{12} by FID detection) and also sulfur speciation with FPD detection analyzer ChromaS.

airmOzone cabinet

The industrial PC is able to handle the signal from all 3 on-line gas chromatographs. Thanks to gas generators for hydrogen and air supply and internal permeation tubes, the system is fully autonomous.

TRSMEDOR : integration in an industrial process

The recycling and valuation of wastes is a major challenge for the conservation of the environment. **Chromatotec** currently works with the research center of a large French industrial group to add an analyzer in their composting process.

The system includes a **supervisor, 6-stream multiplexer and a cabinet of analysis with a TRSMEDOR, an analyzer for total hydrocarbons and an analyzer for NH3 (ammonia).**

The **TRSMEDOR** along with the **industrial system** enables follow-up of concentrations of sulfur compounds like **DMDS, H_2S, Methyl-SH, DMS**) from **10 ppb to 20 ppm**.

Analysis cabinet for water cleaning plant

Customer care: from 9 am to 6 pm (CES Time), we are at your disposal for service gas analyser/software/computer/ maintenance and calibration. To receive our news, send your email to info@chromatec.com

New instrument for measurement of formaldehyde : Airmo HCHO

1. Why measuring the formaldehyde

The HCHO is part of the COV ozone precursors list as a substance listed by the Directive 2002/3/CE and PAMS (US).
It is danfgerous for health, mainly by inhalation and cutaneous contact in indoor ambient air in the professional environnement. It can cause irritations and the corrosion of mucous membranes and can have carcinogenic effects. Toxicological Index: VME: 500 ppb, VLE: 1000 ppb. Some sources of emission: exhaust gas of motor vehicles, binding materials of wood.

2. Chromatotec's analyser AirmoHCHO

AirmoHCHO system

This instrument which detects and quantifies formaldehyde on-line and in continuous as well as other compounds such as acetaldehyde, methanol and acetone, is articulated around the model airmoVOC: 6 ways valve, 3 phase trap, capillary column, methanisation oven and FID detector.

Permeation oven and tube inside instrument all permits to achieve autocalibration. N2 is the carrier gas. -The minimum of detection is from 1 to 2 ppb of HCHO in ambient air (background pollution, background noises). Measurement range is 1 to 100 ppb with good linearity and without interferents.
Data are displayed and stored on hard disk of the integrated computer thanks to the analyser software "Vistachrom". Two models are available: one with trap (ppb range), one with loop (ppm range). Results are available on request
Ref: A13000

CO_2 ANALYSIS

There are different modes of CO_2 production frequently used in foods and beverages industry.
Carbon dioxide is a by-product of many different natural and chemical processing mechanisms. This capability of multiple source types makes it unique in the industrial gas market.
The variation of sources results in a variety of specific impurities that may be anticipated to be present in carbon dioxide.
Specific institutions provide recommendations for good practice in order to provide guidance on the key characteristics for the quality and purity of carbon dioxide for use in foods and beverages:

Analytical method mainly used to prove compliance with the specification is gas chromatography for these parameters:

Component	Concentration
Acetaldehyde	0,2 ppm v/v max.
Benzene	0,02 ppm v/v max.
Total sulphur (as S) *	0,1 ppm v/v max.
* if the total sulphur content exceeds 0,1 ppm v/v as sulphur then the species must be determined separatly and the following limits apply :	
Carbonyl Sulphide	0,1 ppm v/v max.
Hydrogen Sulphide	0,1 ppm v/v max.
Sulphur dioxide	1,0 ppm v/v max.

source : CGA/EIGA limiting characteristics commodity specification for carbon dioxide from "carbon dioxide source certification, quality standards and verification", IGC Doc 70/99/E

For this type of analysis Chromatotec propose our range of on-line and continuous analyzer :

- **airmoBTX** with FID detector
- **chroma S** analyzer with FPD detector

GC 866 airTOXIC 1,3 Butadiene Ref A76022

Some VOC's like **1,3 butadiene or benzene** are known to be **carcinogenic**.

The French ministerial recommendation (**DGS / SD 7 B no 2005-273 of February 25th, 2005**) relating to the evaluation of the consequences on health of air pollution due to traffic showed that those two compounds are critical. In petrochemicals, these compounds are also closely monitored.
Today, **Chromatotec** offers a new option for the **simultaneous** analysis of **1,3 Butadiene** and the **BTEX** Benzene, Toluene, Ethylbenzene, Xylene) with the analyser **GC 866 airTOXIC (PID).**

These instruments enable also to separate two interfering species : **Cyclohexane** (car traffic) and **Styrene** (petrochemicals).

Validated by the US EPA

Option chlorobenzene(s)

Model A76022

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