COEI-2-CONGAZ Analyses of gas control by gaseous chromatography

1. Principle

The gases are controlled by chromatography in gaseous phase using a "molecular sieve" type column and detection by catharometer or flame ionisation.

2. Sampling

Either use

- a stainless steel flask for sampling gas
- a Teflon sampling bag for gas.

3. Injection method

Use of a unheated gas valve with a 250 µl ring.

4. Separation of light cases H_2,O_2,N_2, CO, CH_4

4.1. Column (for example)

Phase: Molecular sieve Chromosorb 101, Porapak Q

- diameter of particles 5 µm
- granulometry: 80 to 100 mesh

Dimensions: length: 2 m, internal diameter: 2 mm.

4.2. Vector Gas

- Helium (He), flow: 3 ml/mn

3. Oven temperature: 40°C isotherm
4. Detector: Catharometer, Intensity 190 µA

5. Separation of light hydrocarbons

5.1. Column (for example)

Wide bore

Phase: apolar, diameter of particles: 5 µm

Length: 30 m, internal diameter: 0.53 mm

5.2. Vector gas

Nature: Helium, Flow: 3 ml/mn

Oven temperature 35°C to 200°C rise: 10°C/mn

5.3. Detector: Flame ionisation, temperature 220°C.