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Application Data Sheet

No.60

System Gas Chromatograph

NGA Analysis with ISO6974-3 Nexis
Nexis GC-2030ISO6974-3
GC-2014ISO6974-3

This method is for determining the chemical composition of natural gases within the composition range shown in the specification sheet. This test method provides data for calculating physical properties of the sample, such as heating value and relative density, or for monitoring the concentrations of one or more of the components in a mixture. A MS-13X column with thermal conductivity detector (TCD-2) is used for the separation and detection of He, H2, O2, N2, CH4 and CO and the C2+ are back-flushed out by using Porapak-N as pre-column. Porapak-T column coupled with a TCD-1 and a flame ionization detector (FID) in series is used for the separation and detection of N2, CO2 and hydrocarbons from C1-C8. TCD-1 for component including hydrocarbons up to C3 and FID for hydrocarbons from C4 to C8. The system includes LabSolution workstation software and BTU and Specific Gravity calculation software.

Analyzer Information

System Configuration:
Two valves / three packed columns with two TCD detectors

Sample Information: Permanent gas, C1-C8

Concentration Range:

No.	Name of Compound	Concentration Range		Detector
		Low Conc.	High Conc.	
1	He	0.01%	0.5%	TCD-2
2	H2	0.01%	0.5%	TCD-2
3	O2	0.1%	0.5%	TCD-2
4	N2	0.1%	40.0%	TCD-2
5	CH4	50.0%	100%	TCD-2
6	CO2	0.1%	30.0%	TCD-1/FID
7	C2H6	0.1%	15.0%	TCD-1/FID
8	C3H8	0.001%	5.0%	TCD-1/FID
9	i-C4H10	0.0001%	2.0%	FID
10	n-C4H10	0.0001%	2.0%	FID
11	i-C5H12	0.0001%	1.0%	FID
12	n-C5H12	0.0001%	1.0%	FID
13	C6 – C8	0.0001%	0.5%	FID

Detection limits may vary depending on the sample. Please contact us for more consultation.

System Features

- Versatile software easy GC system operation
- Two TCD channels
- Good repeatability

Typical Chromatograms

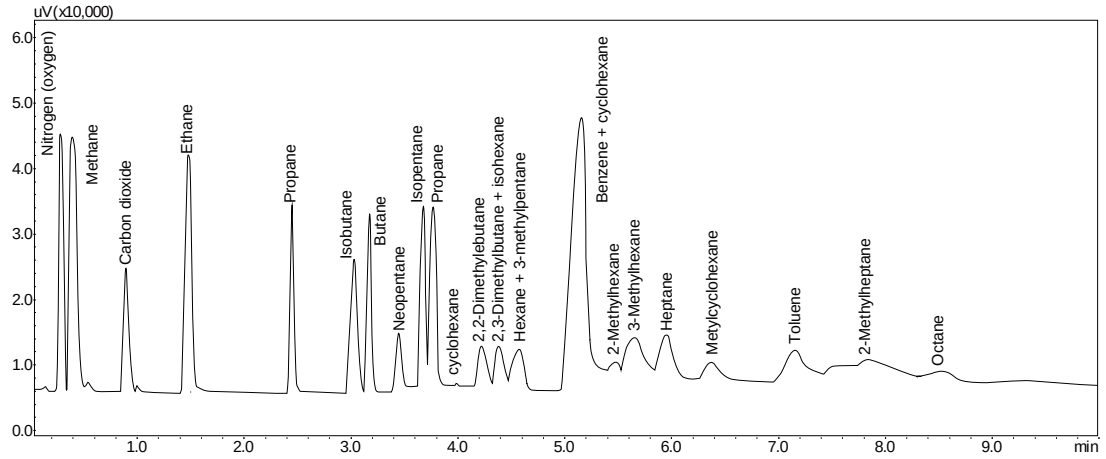

Fig. 1 Chromatogram of TCD

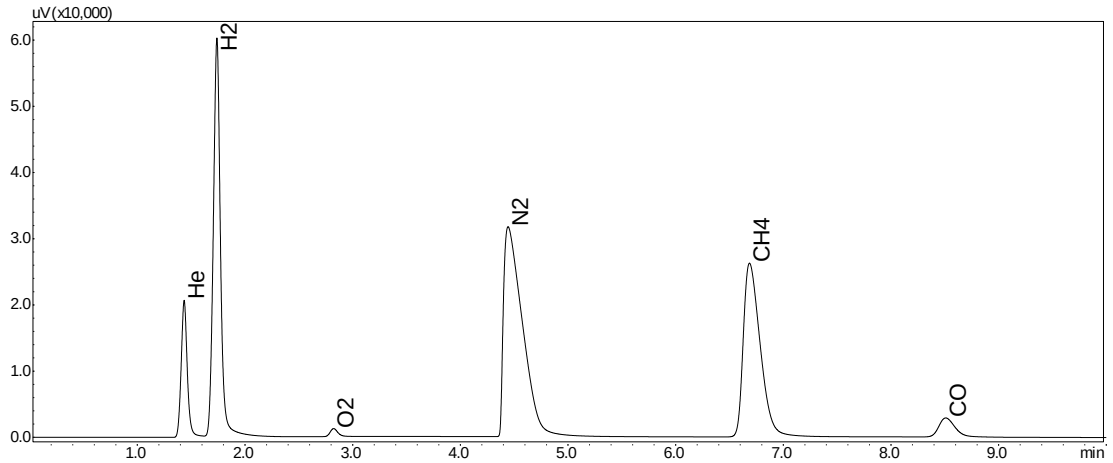

Fig. 2 Chromatogram of TCD

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