

# Application Data Sheet

## No. 59

## System Gas Chromatograph

### N<sub>2</sub>O/CO/CO<sub>2</sub>/CH<sub>4</sub> analysis system (TCD) Nexis GC-2030NCCC3 GC-2014NCCC3

This method provides for the determination of nitrous oxide (N<sub>2</sub>O) released from soil by gas chromatography (GC) with Electron Capture detector (ECD) using Porapak-N and HayeSep-D packed column. A total of 5 valves and 7 columns are applied in this GC system. Sample is introduced into two sample loops for determination. Channel 1, the N<sub>2</sub>O is separated by the HayeSep-D column and detected by ECD. Channel 2, First Porapak-N column is pre-column to cut the above C<sub>2</sub> compounds. Second Porapak-N functions to separate Air/CH<sub>4</sub>/CO and CO<sub>2</sub>. Air/CH<sub>4</sub>/CO are separated by MS-13X column. On the other hand, CO<sub>2</sub> moves through Porapak-Q and detected by TCD. The system includes LabSolutions GC workstation software.

#### Analyzer Information

##### System Configuration:

Four valves / five packed columns with one ECD detector and one FID detector

##### Sample Information:

N<sub>2</sub>O, Permanent gas

#### Concentration Range:

No.	Name of Compound	Concentration Range		Detector
		Low Conc.	High Conc.	
1	N <sub>2</sub> O	50.00ppb	100.00ppm	ECD
2	CH <sub>4</sub>	0.01%	10.00%	TCD
3	CO	0.01%	10.00%	TCD
4	CO <sub>2</sub>	0.01%	10.00%	TCD
5	N <sub>2</sub>	0.01%	20.00%	TCD
6	O <sub>2</sub>	0.01%	20.00%	TCD

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

#### System Features

- Versatile software easy GC system operation
- One ECD, one TCD channel
- Good repeatability

Typical Chromatograms

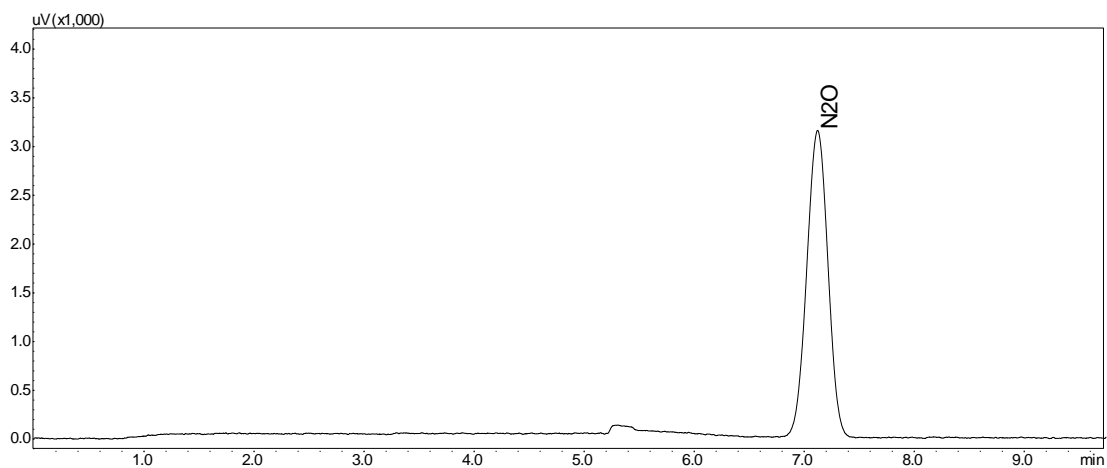


Fig. 1 Chromatogram of ECD

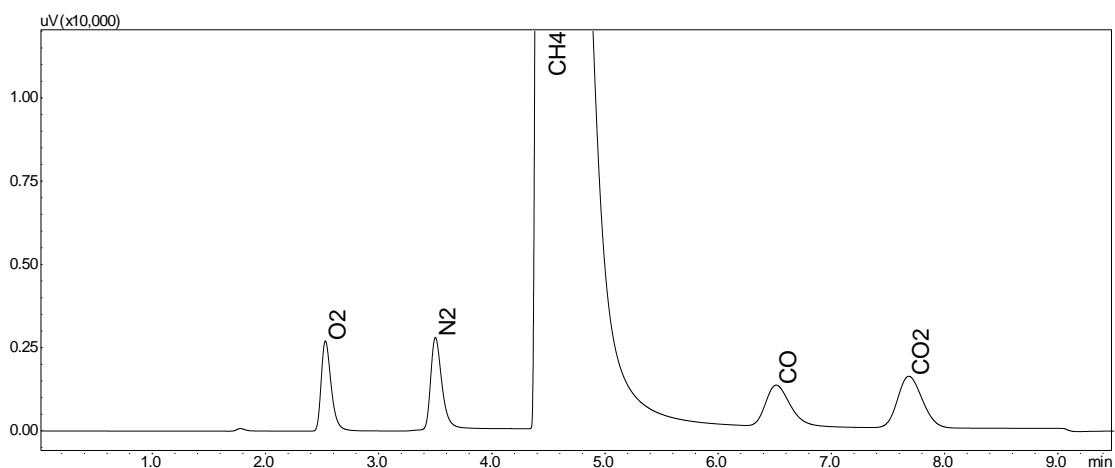


Fig. 2 Chromatogram of TCD