

Application Data Sheet

No. 17

GC

Gas Chromatograph

Simultaneous Analysis of Sulfur Compounds

The general-purpose BID-2010 Plus barrier discharge ionization detector (BID) offers high-sensitivity detection of all components other than He and Ne. The BID enables simultaneous analysis of sulfur compounds that include H_2S , COS, CS_2 with high sensitivity. This datasheet introduces an example of simultaneous analysis of sulfur compounds using the Shimadzu BID-2010 Plus barrier discharge ionization detector.

Equipment Used and Analytical Conditions

Equipment Used

Software GCsolution
Gas Chromatograph GC-2010 Plus A + BID-2010 Plus
Gas Sampler MGS-2010
Injection Port Unit SPLITTER INJ*1

*1: Special unit to prevent atmospheric components from entering. Treated to prevent adsorption of sulfur components.

Analytical Conditions

Column Select Low Sulfur (0.32 mm I.D. × 60 m)
Column Temp. 35 °C (8 min) - 10 °C/min - 200 °C (0 min), Total 24.5 min
Carrier Gas Control Linear velocity
Linear Velocity 72.6 cm/sec (He)
Injection Mode Split (1:3)
Detector Temp. 230 °C
Discharge Gas Flowrate 70 mL/min (He)
Injection Volume 1 mL

Results

The following is an example of the analysis of gas mixed with sulfur compounds at 1 ppm (balanced with He). Using the BID-2010 Plus enables the simultaneous analysis of sulfur compounds with high sensitivity.

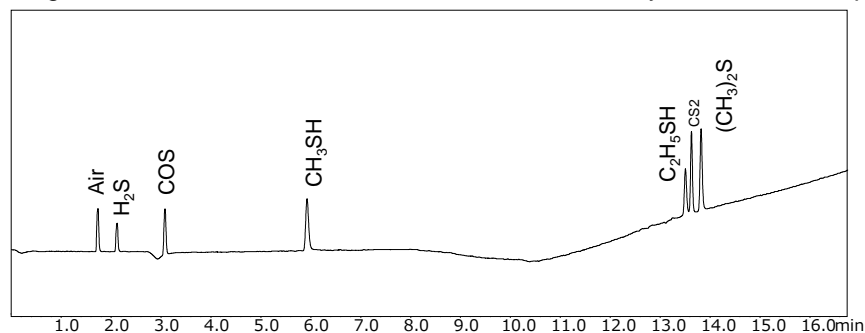


Fig. 1: Chromatogram of Gas Mixed with Sulfur Compounds at 1 ppm (balanced with He)

Table 1: S/N of Each Component*2

Component	S/N
	BID-2010 Plus
H_2S	130
COS	214
CH_3SH	238
$\text{C}_2\text{H}_5\text{SH}$	205
CS_2	364
$(\text{CH}_3)_2\text{S}$	370

*2: These values are not guaranteed and are shown as reference values.

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