

# 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<sub>2</sub>S, COS, CS<sub>2</sub> 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.

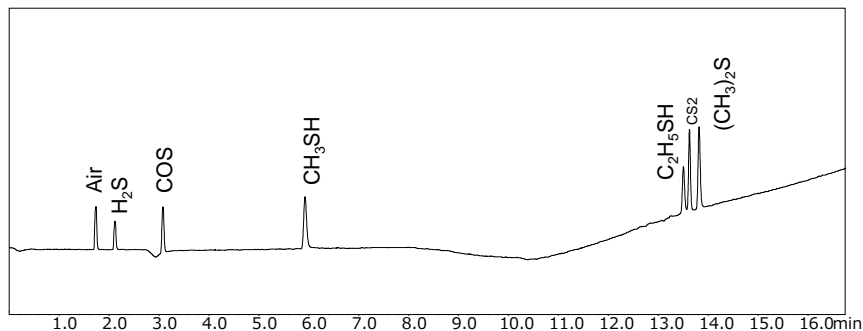


Fig. 1: Chromatogram of Gas Mixed with Sulfur Compounds at 1 ppm (balanced with He)

Table 1: S/N of Each Component\*2

Component	S/N
	BID-2010 Plus
H <sub>2</sub> S	130
COS	214
CH <sub>3</sub> SH	238
C <sub>2</sub> H <sub>5</sub> SH	205
CS <sub>2</sub>	364
(CH <sub>3</sub> ) <sub>2</sub> S	370

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

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