

APPLICATION: ASTM D5504

Key Applications for Sulfur include D5504 (Sulfur components in Natural gas and Gaseous fuels and D5623 (sulfur components in gasoline and petroleum liquids with final boiling point upto 230°C such as (aromatic) solvents, and gasoline blend streams.

SeNse SCD based GC Analyzers focus on compliance and performance, so lab productivity can be maximized right from commissioning and maintenance kept to a minimum. During our in factory testing we test and document the analytical performance of these solutions to method, to allow fast transitioning.

D5504 - Sulfur species in Natural gas and Gaseous Fuels (Calibration Mixture Chromatogram, Linearity H₂S, and chromatogram of TetraHydroThiophene (THT) in Natural gas.

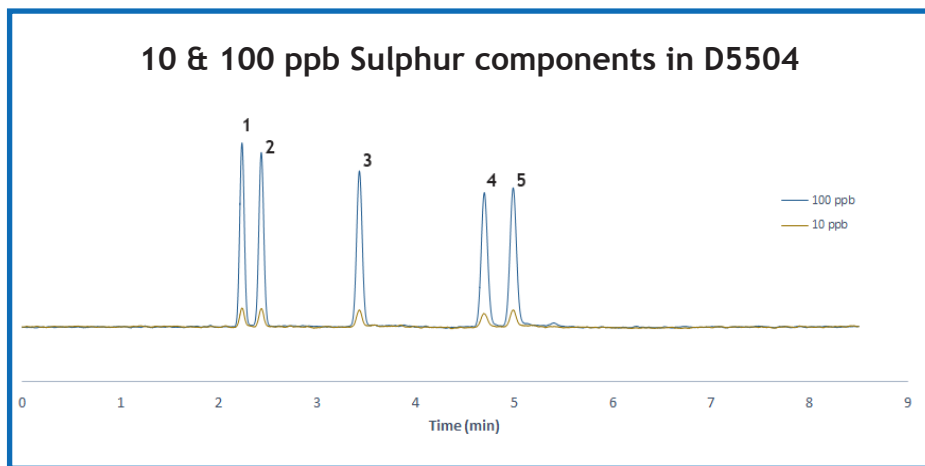


Figure 3: Overlay diluted calibration Gas 10 & 100 ppb

Component ID #	Components
1	Hydrogensulfide
2	Carbonylsulfide
3	Methyl Mercaptan
4	Ethyl Mercaptan
5	Dimethylsulfide
6	Tetrahydrothiophene

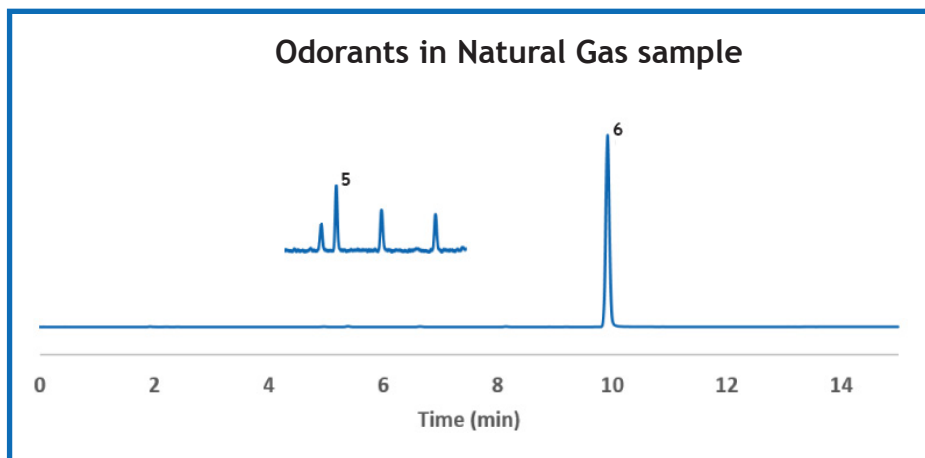


Figure 4: 17 mg/m³ THT in Natural Gas sample with zoomed chromatogram

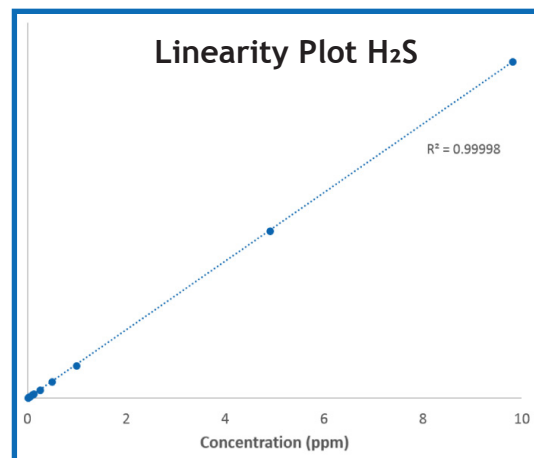


Figure 5: Linearity Plot H₂S

CASE STUDY: MAINTENANCE MADE SIMPLE - AND FAST!!

Removing or changing a **septum**, **insert** or even a **column** may seem like an everyday task however, if this work involves cooling down a detector from >1000°C to room temperature, time quickly adds up and meanwhile the instruments are out of commission!

Want to save time?

From the GC side, SeNse now allows users to exchange not only liners, septa and pre-columns on the GC side, but also the full analytical column without the need to cool down the SCD detector. The constant base pressure system provides a continuous gasflow, allowing the SCD to keep running while you do your routine actions.

This timesaving innovation maximizes productivity beyond known levels, as the system will be back up and running much faster. Furthermore, detector maintenance is simple and only takes minutes to complete.



APPLICATION: ASTM D5623

Chromatographic conditions are optimized to obtain adequate separation of the common Sulfur compounds. Analytical Controls delivers two dedicated liquid samples to validate the peak identification according to ASTM D5623.

D5623 - Sulfur Species in Gasoline and Petroleum Liquids with Boiling point up to 230°C. (Peak ID mixture 1 and 2)

Comp. ID #	Peak ID mix #	Components
1	1	Ethanethiol
2	2	Dimethylsulfide
3	1	Carbon Disulfide
4	1	2-Propanethiol
5	1	2-methyl-2-propanethiol
6	1	1-Propanethiol
7	2	Ethylmethylsulfide
8	1	2-Butanethiol
9	2	Thiophene
10	1	2-Methyl-1-propanethiol
11	2	Diethylsulfide
12	1	1-Butanethiol
13	2	Dimethyldisulfide
14	2	2-Methyl Thiophene
15	2	3-Methyl Thiophene
16	2	Diethyldisulfide
17	2	Benzothiophene
18	2	3-Methylbenzothiophene

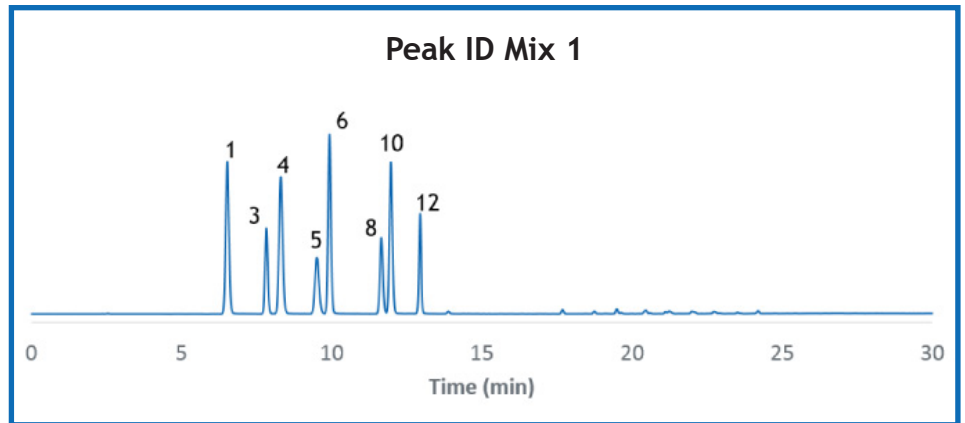


Figure 6: Peak ID Mix 1 (AC part # 00.02.612)

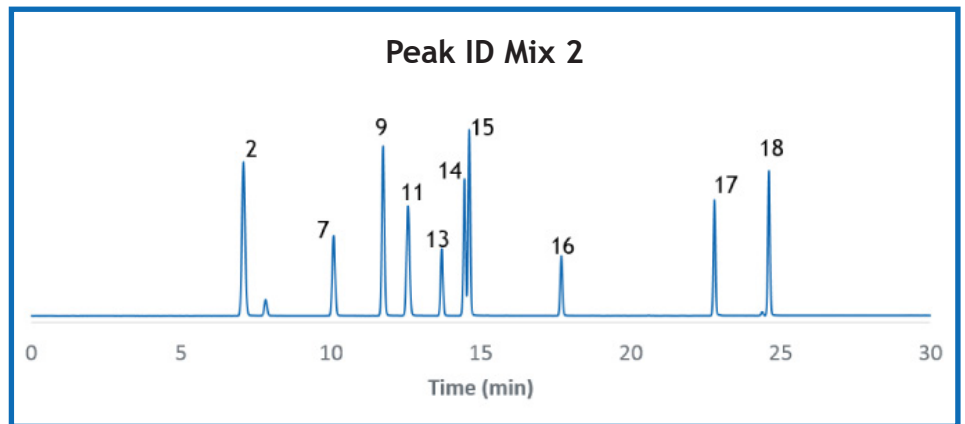


Figure 7: Peak ID Mix 2 (AC part # 00.02.613)

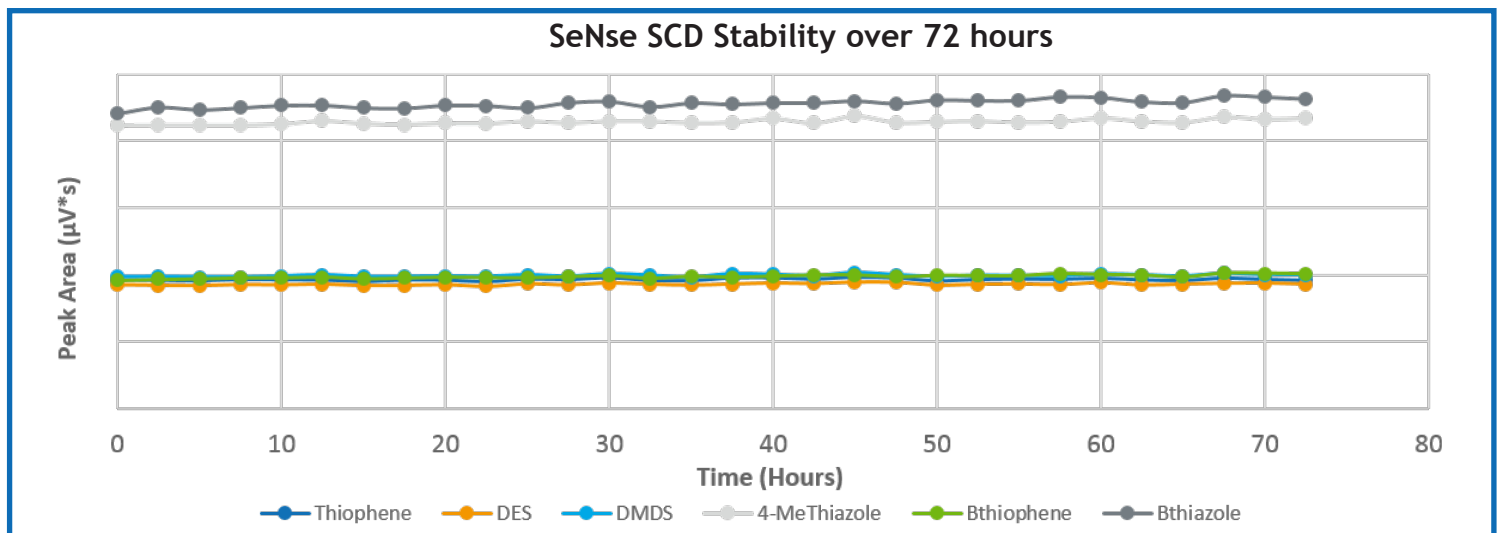


Figure 8: SeNse SCD Stability plot