



Agilent 8355 Sulfur Chemiluminescence Detector

REIMAGINED. REDESIGNED.

The Measure of Confidence



Agilent Technologies

THE ONLY INTEGRATED SYSTEM FOR LOW-LEVEL SULFUR ANALYSIS

Why did Agilent reimagine the industry's gold-standard SCD?

Simply put, we recognized that SCD technology must evolve to keep pace with growing demands for regulatory compliance and workflow efficiency.

We started by integrating the SCD with the Agilent 7890B – the world's most reliable GC and chromatography data system – to improve the overall user experience. We then reengineered the burner assembly to maximize instrument uptime and simplify routine maintenance.

The result: the Agilent 8355 SCD – the only integrated system that delivers both selective and sensitive sulfur detection when time is critical and the right results are absolutely necessary.



Fully integrated Agilent 8355 SCD with Agilent 7890B GC and OpenLAB Chromatography Data System software
High selectivity and sensitivity for complex trace-sulfur methods



Work smarter with integrated GC, MSD, and software technologies



Meeting your needs for sensitivity, ASTM compliance, and ease of maintenance

Full integration

The Agilent 8355 SCD is now completely integrated into the Agilent 7890B GC with OpenLab CDS and MassHunter software – streamlining your lab’s analytical workflows and its ability to comply with regulatory requirements.

Worry-free maintenance, walk-up readiness

Maintaining the SCD burner, particularly replacing the inner ceramic tube, has never been easier. That’s because the simplified design of the 8355 SCD now allows you to replace the tube in just minutes, increasing workday productivity.

Robust and reliable

Electronic pneumatics control and digital electronics set a new benchmark for precision and repeatability – making the Agilent 8355 SCD the most sensitive and selective equimolar chemiluminescence detector that is linear in response.

Dual-plasma design

Eliminates quenching (signal suppression) caused by coelution of sulfur components and hydrocarbons.



Standalone Agilent 8255 Nitrogen Chemiluminescence Detector For nitrogen detection



Standalone Agilent 8355 SCD Compatible with legacy Agilent GC systems and other manufacturers’ GC systems



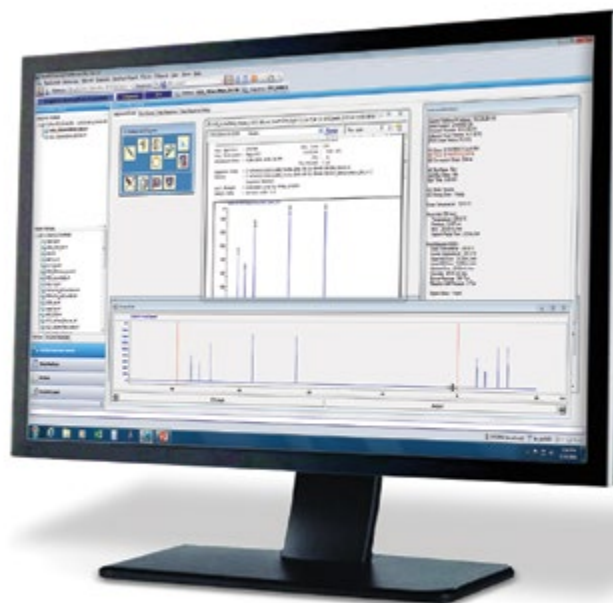
CP17989 Gas Clean Purification System (with Baseplate CP738407) Offers fast, leak-free filter replacement

Learn more about the *only* integrated system for low-level sulfur analysis. Visit agilent.com/chem/SCD

FULL GC INTEGRATION MAKES COMPLEX ANALYSES MORE ROUTINE

Now your lab can run trace-sulfur methods with minimal instrument setup and configuration. This robust, ready-to-go system – the only one of its kind – gives you:

- **Improved accuracy and repeatability:** Patented electronic pneumatic control technology maintains proper flow and split ratios for all flow gases within the system. Electronic flow control also enables visual identification of readings to 0.002 accuracy.
- **Conformity to industry standards:** Fully supports ASTM methodologies.
- **Easy method addition or modification** through direct communication between the Agilent 7890B GC and the Agilent 8355 SCD.
- **Full dynamic range:** The 8355 SCD supports a large range of concentrations without peak truncation, providing full digital data without the need of A/D conversion.



Integration with the Agilent 7890B GC lets you fully control the Agilent 8355 SCD using OpenLAB CDS.

Two additional ways to leverage the latest advances in detection

Use a standalone SCD with your existing GC systems



The Agilent 8355 SCD is compatible with Agilent legacy and third-party GC systems, so your lab can experience all the advantages of increased sensitivity and simplified maintenance. (Ranged analog output, A/D box, or AIB board required.)

Lower your detection limits for nitrogen applications



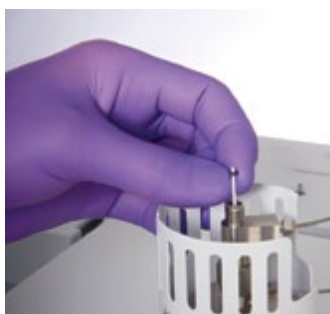
The Agilent 8255 Nitrogen Chemiluminescence Detector produces a linear and equimolar response to nitrogen compounds. Learn more at: agilent.com/chem/NCD

SIMPLIFIED DESIGN TURNS MAINTENANCE TIME INTO UPTIME

Previous generation sulfur chemiluminescence detectors can be notoriously complex to maintain, due to their large number of components and fittings – particularly in the burner.

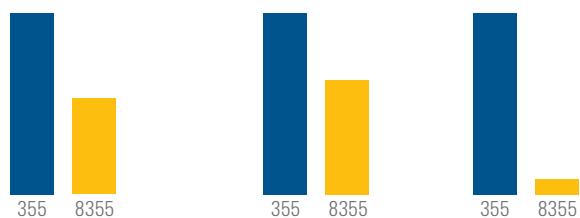
The Agilent 8355 SCD solves this problem with newly redesigned features that enhance performance while reducing maintenance time and costs:

- The dual-plasma burner is now easier to maintain than ever.
- New electronic flow controls improve accuracy and precision.
- The ozone generator has been optimized for efficiency and durability.



Replace the inner ceramic tube in minutes, not hours.

Reducing complexity improves uptime readiness



Pathway connections
Reduced ~ 40%

Significantly decreasing the number of potential leak points compared to model 355.

Burner components
Reduced ~ 50%

Making the inner ceramic tube easier to replace.

Inner tube change time
Reduced ~ 92%

Change the inner ceramic tube in as little as 10 minutes, as opposed to 2 hours.

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Dedicated to your success

Agilent CrossLab is a comprehensive, coordinated method of providing services, supplies, and software that dramatically improves laboratory efficiency and productivity.

But even more, Agilent CrossLab is your pipeline to a global team of scientific and technical experts who deliver vital, actionable insights at every level of the lab environment – insights that maximize performance, reduce costs, and ultimately drive improved economic, operational, and scientific outcomes.



Learn more about the *only* integrated system for low-level sulfur analysis. Visit [agilent.com/chem/SCD](https://www.agilent.com/chem/SCD)

RAPIDLY IDENTIFY AND QUANTIFY SULFUR COMPOUNDS IN PETROLEUM FEEDS

ASTM D5623:

Analysis of Sulfur Compounds in Light Petroleum Liquids by Gas Chromatography and Sulfur Selective Detection

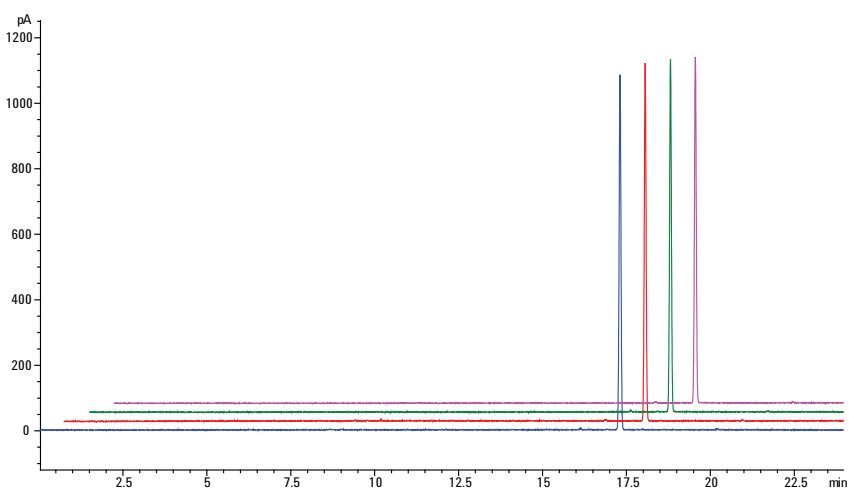
Sulfur-containing compounds are notorious for their detrimental effects as catalyst poisons; therefore, your starting materials must be of the highest purity – particularly when using very selective catalysts.

The 8355 SCD is the unit of choice for performing accurate quantitation and speciation of sulfur compounds in petroleum liquids.

Concentration (approx.)	Average Normalized Response Factor	Standard Deviation	% RSD
0.1 ppm	0.099	0.007	6.8
1 ppm	0.92	0.06	6.3
10 ppm	10.1	0.2	2.4
100 ppm	97	3	3.3
1,000 ppm	1030	40	3.5

4 orders of magnitude for dynamic linear range. The redesign of the Agilent 8355 SCD burner allows you to confidently analyze and report data from high-level samples.

Stability of t-butyl disulfide over one month



High system stability. This chart illustrates long term performance.



Agilent and ASTM

Collaborating on industry standards and methods

- Applications chemists from both Agilent and our business partners actively participate in new ASTM method development.
- We bring ASTM approved methodology to all our customers worldwide.
- Agilent scientists actively monitor emerging requirements and trends to bring needed industry applications to ASTM.
- Standards are formulated specifically for analysis of sulfur in biodiesel fuel.

SULFUR DETERMINATION THAT SATISFIES REGULATORY, PRODUCTION, AND DISTRIBUTION REQUIREMENTS

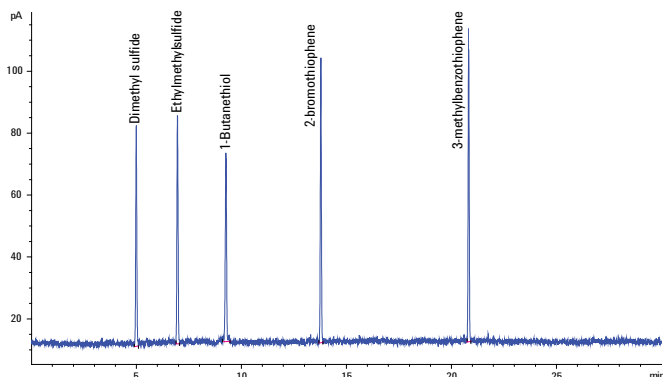
ASTM D5504:

Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence

Gas chromatography with sulfur chemiluminescence detection provides a rapid means of identifying and quantifying sulfur compounds in petroleum feeds and products. Examples include sulfur compounds in monomers such as ethylene and propylene; solvents

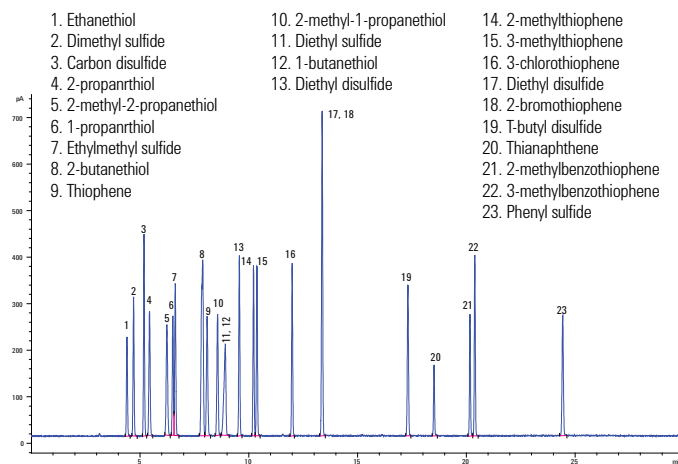
such as paraffins, benzene, toluene and xylenes; and fuels such as natural gas, LPG, gasoline, kerosene, jet, and diesel.

5 sulfur compounds injected at 100 ppb on-column



Low-level detection of sulfur compounds. These results demonstrate the high accuracy and precision of the Agilent 8355 SCD.

23 sulfur compounds injected at 1 ppm on-column



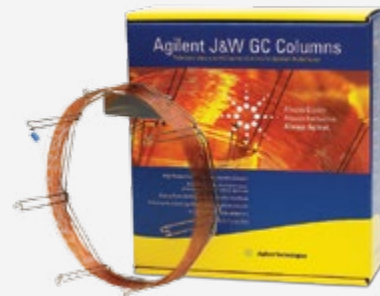
ASTM compliant performance allows for detection of components of interest.

Greatly improve SCD stability with Agilent J&W DB-Sulfur SCD columns

Thick-film PDMS columns commonly used with SCD are prone to excessive bleed at high temperatures. When this happens, column bleed components accumulate and foul (coke) onto SCD burner ceramic tubes, destabilizing detector response over time.

Agilent J&W DB-Sulfur SCD columns are optimized for low bleed.

This reduces fouling of SCD ceramic tubes – minimizing instrument downtime and operational costs. In addition, DB-Sulfur SCD columns provide excellent peak shape and extended detector stability for all GC SCD methods that utilize PDMS stationary phases – such as ASTM D5623 and D5504.



Learn more about the *only* integrated system for low-level sulfur analysis. Visit agilent.com/chem/SCD



At Agilent, we understand that most labs have several instrument vendors on their bench – each having a unique role in achieving outstanding analytical data.

That's why Agilent CrossLab goes beyond parts to deliver full laboratory support.

With Agilent CrossLab, you get access to consumables, services, and expertise for multivendor instruments, so you can generate the best possible data and stay up and running at full capacity.

But that's only part of the story. Agilent CrossLab is also your pipeline to a global team of experts who bring you vital, actionable insights for improving your science and enhancing your operations – from a single instrument through your entire workflow. It's a simple way to control your very complex laboratory.

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