

Maintain Sustainability While Meeting Your GC and GC/MS Efficiency and Productivity Goals

Resources for a more sustainable lab



Agilent

Trusted Answers



Partnering for Sustainability and Business Success

Sustainable thinking is transforming the way researchers, scientists, and manufacturers approach their products, processes, and supply chains.

Labs with GC and GC/MS systems in particular have unique sustainability challenges due to the resource-intensive nature of these instruments. Both routine analysis and specialized research consume large amounts of carrier gas and energy—while generating potentially toxic waste products, such as solvents and rough pump oil.

Reducing consumption and waste is crucial, particularly in the face of ever-tightening regulatory guidelines. However, it can be a challenge for labs to lessen their environmental impact while continuing to optimize workflows and lower costs.

At Agilent, we believe that efficiency, productivity, and sustainability are interlinked.

Working toward sustainability is an integral part of how we conduct business and respond to our customers' challenges. Together, we can help your lab achieve its sustainability goals—while increasing output, maintaining accuracy, and staying competitive.

85% of labs have sustainability goals in place

Source: 2018 Agilent survey of lab managers worldwide



This eBook Will Help You Address Complex Issues in a Sustainable Way

Agilent is committed to being a good corporate citizen and acting responsibly in pursuit of our goals. That means we operate in a sustainable manner—and help others do the same.

To instantly access infographics, sustainability reports, videos, and more, simply choose one of these topics.

Sustainability Through Innovation: The Agilent Approach	4
GC and GC/MS Manufacturing with an Eye Toward Conservation	5
Building a Culture of Sustainability by Partnering with My Green Lab	6
How Do Agilent Intelligent GC and GC/MS Systems Measure Up to ACT Criteria?	8
Intelligent GC Features Reduce Resource Use, Waste, and Chemicals	10

Sustainability Through Innovation: The Agilent Approach

Our customers' challenges are the driving force behind every Agilent innovation. And that includes sustainability. We're conscious of it in everything from the suppliers and materials we use to the product and packaging advances we make. Agilent strives to:

- Minimize the environmental impact of our operations through resource conservation, reducing our carbon footprint.
- Develop products and solutions that have the potential to reduce emissions and waste, as well as the consumption of energy, gas, and water.
- Bring these products and solutions to market—empowering you to operate more sustainably to address real-world challenges, without sacrificing performance.

Explore these
sustainability
innovation resources



Infographic:

[Sustainability Through Innovation](#)

View an at-a-glance summary of Agilent innovations that promote sustainability for our company, our customers, and our planet.



Report:

[Delivering on Our Promises: 2022 Corporate Social Responsibility Report](#)

Agilent continues to make substantial progress toward our environmental, social, and governance (ESG) objectives.



Video:

[Safeguard Against Helium Uncertainty with the HydroInert Source](#)

Watch how the novel HydroInert source allows labs using GC/MS to harness the benefits of hydrogen as a carrier gas and reduce dependency on non-renewable helium.

GC and GC/MS Manufacturing with an Eye Toward Conservation

Sustainable manufacturing is the creation of products through processes that minimize negative environmental impacts while conserving energy and natural resources. It also enhances employee, community, and product safety.

Agilent GC and GC/MS systems are manufactured and shipped from facilities worldwide. These locations help Agilent stay nearer to our customers, minimizing our carbon footprint for global logistics.

In addition, Agilent facilities have made changes to save electricity and water—and are continuously working on ways to be more environmentally responsible. The results of our efforts include:

- Nearly 3,000 metric tons of greenhouse gas emissions offset annually since 2015
- 11% reduction in site carbon footprint since 2014
- 85% of solid waste diverted from landfills as of 2019



The solar power system installed in our Shanghai, China, manufacturing plant has an annual carbon offset of 245 metric tons.

Explore these sustainable manufacturing resources

Video:

[Why Agilent Is Committing to Net Zero](#)

Neil Rees, vice president and head of the Agilent ESG Program, explains how our commitment to net zero aligns with our core business objectives.

Feature page:

[The Agilent Net-Zero Commitment](#)

See how Agilent is working toward achieving net-zero greenhouse gas emissions by 2050.



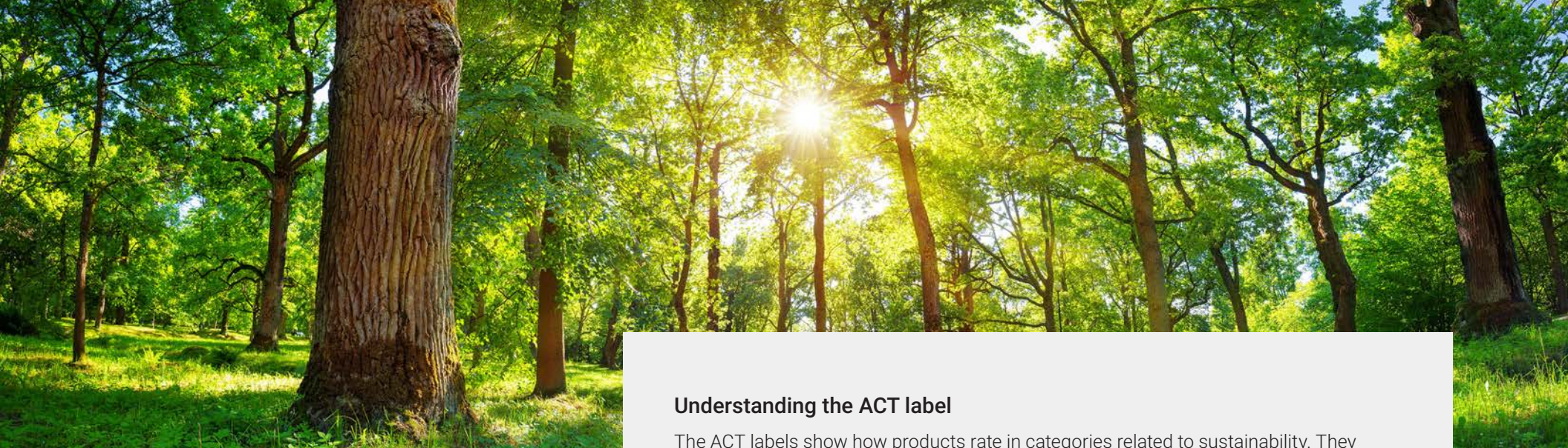
Building a Culture of Sustainability by Partnering with My Green Lab

My Green Lab is a nonprofit organization dedicated to improving the sustainability of scientific research. Managed “for scientists, by scientists,” My Green Lab develops standards, oversees their implementation, and inspires behavioral changes throughout the scientific community.

To support this essential effort, Agilent has partnered with My Green Lab. Specifically, we are working to have selected GC and GC/MS instruments and diagnostic tools independently audited for their Accountability, Consistency, and Transparency (ACT) label.

The ACT label provides information about the environmental impact of manufacturing, using, and disposing of a product and its packaging, so buyers are able to make more informed purchasing decisions when it comes to the environmental sustainability of their selected instrument(s).






Understanding the ACT label

The ACT labels show how products rate in categories related to sustainability. They provide a transparent, easy-to-understand measure for several factors, similar to food nutrition labels.

Explore these My Green Lab resources

 [Press releases about the Agilent partnership with My Green Lab:](#)

[Agilent Announced as My Green Lab's First "Transformative Level" Sponsor and First Sponsor of the My Green Lab Certification Program](#)

[Agilent Signs Sponsorship Agreement with My Green Lab](#)

 [Websites:](#)

[My Green Lab](#)

[Agilent Sustainable Lab Solutions Verified by My Green Lab](#)

 us	
Product Name	
Product Location SKU 0000	
Environmental Impact Scale Decreasing Environmental Impact 	
Manufacturing	
Manufacturing Impact Reduction	3.0
Renewable Energy Use	No
Responsible Chemical Management	1.0
Shipping Impact	1.0
Product Content	10.0
Packaging Content	5.0
User Impact	
Energy Consumption (kWh/day)	12.7
Water Consumption (gallons/day)	N/A
Product Lifetime	1.0
End of Life	
Packaging	4.8
Product	1.0
Innovation	
Innovative Practices	-1.0
Environmental Impact Factor:	38.5
Label Valid Through:	June 2024
 act.mygreenlab.org	

Regional labels capture differences in the shipping and end-of-life impacts for each region (US, EU, and UK) in which the product is sold. Units of measurement are specific to that region.

This category is either "yes" or "no."

Graded on a scale of 1 to 10, with 1 indicating the lowest environmental impact and 10 indicating the highest impact.

Values represent actual daily consumption, and apply only to equipment.

A lower number indicates a lower overall environmental impact.

How Do Agilent Intelligent GC and GC/MS Systems Measure Up to ACT Criteria?

Key instruments in our intelligent GC and GC/MS portfolio achieved excellent scores after ACT evaluation. The labels shown here represent the U.S. market. To view labels from other regions, use the links provided.



Agilent 8890 GC system

The highly configurable 8890 GC lets you view setup information, troubleshoot problems, check for leaks, backflush columns, pause/start sample runs, and direct method development. And you can do it all anytime, anywhere.

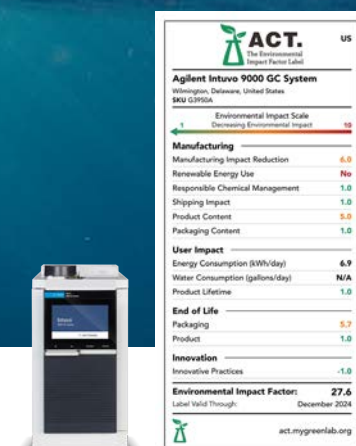
[View ACT labels from all regions](#)



Agilent 8860 GC system

Our workhorse GC system combines quality, reliability, and performance with innovations that maximize your uptime and minimize unplanned repairs. Perfect for a range of routine GC applications, in a way that's anything but routine.

[View ACT labels from all regions](#)



Agilent Intuvo 9000 GC system

Intuvo drastically reduces—or eliminates—unplanned downtime, tedious column changes, and slow cycle times that impact your lab's ability to produce fast, accurate data. By integrating instrument, consumables, software, and services, Intuvo delivers enabling technologies you won't find anywhere else.

[View ACT labels from all regions](#)



Agilent 5977C GC/MSD system

Achieve better GC/MSD outcomes and better business outlooks. Coupled with new productivity-boosting technologies, the 5977C provides day in, day out performance, so you can work on things that add value to your business.

[View ACT labels from all regions](#)



Agilent 7000E GC/TQ system

The latest member of the most successful GC/MS/MS family in history, the Agilent 7000E triple quadrupole GC/MS provides unequivocal robustness to deliver the answers you seek. Choose this cost-effective system for reliable routine analysis.

[View ACT labels from all regions](#)



Agilent 7010C system

Now you can achieve attogram-level detection in EI mode. The Agilent 7010C is the most sensitive Agilent GC/TQ system. Its Reference Compound Introduction Valve simplifies your analysis of environmental dioxins, while meeting EPA method detection limits.

[View ACT labels from all regions](#)



Agilent CrossLab CS: ADM Flow Meter and Electronic Leak Detector

Tired of juggling a separate flow meter and leak detector? Bundle two critical GC flow path monitoring devices into one convenient package with the Agilent CrossLab Cartridge System (CS).

- An Electronic GC Leak Detector detects leaks and verifies leak-free tubing and fittings—conserving gases like hydrogen, nitrogen, and helium throughout your lab or site.
- An ADM Flow Meter measures gas streams and provides flow rates. Its cartridge design minimizes shipping costs for compliance and reduces electronic waste with a single handheld system.

[View ACT labels from all regions](#)



Intelligent GC Features Reduce Resource Use, Waste, and Chemicals

GC and GC/MS analyses can use significant amounts of energy, gas, and other resources—and produce waste products like solvents and pump oil. Agilent is addressing this problem by building innovation into our intelligent GC systems, and helping you reduce your environmental impact when you retire older instruments.



Minimize the impact of global helium shortages

Gas Saver and helium conservation module

Agilent Gas Saver alone can reduce your total helium carrier gas flow by 50% or more. Combining Gas Saver with the helium conservation module can save a significant amount of helium and lower your operational costs.

The helium conservation module automatically switches the carrier gas supply from helium to nitrogen during idle time. In doing so, it maintains flow path inertness and keeps the system at temperature during standby.

Electronic pneumatic control (EPC)

Minimize repeat runs and the required resources. Agilent intelligent GC instruments feature core microchannel-based EPC, which protects against gas contaminants—such as particulates, water, and oils. So you get better results with less rework.

HydroInert GC/MS source and Hydrogen Sensor Module Series 2

Agilent GC and GC/MS systems can use hydrogen carrier gas as an alternative to helium, a nonrenewable resource.

HydroInert is an innovative GC/MS ion source optimized to reduce chromatographic challenges while using hydrogen carrier gas. The Hydrogen Sensor Module checks for free hydrogen in the GC column oven, which may come from flow path leaks. When properly calibrated, it triggers a shutdown of all hydrogen gas flows before the oven's hydrogen level reaches 1%—well below dangerous readings.



Lower your lab's energy and gas consumption



Direct column heating

The Agilent Intuvo 9000 uses an ultrafast and efficient direct heating system that requires less than half the electrical power of a conventional GC. It also significantly reduces the heat emitted back into the lab.



Minimize nonhazardous waste

Enhanced maintenance feedback (EMF)

Don't dispose of consumables prematurely. EMF counters let you monitor common consumables, so you know exactly when they need to be replaced.

Smart Key

Stop guessing when you need to change your columns. Gas chromatography columns with Smart Key provide information on column use, configuration, age, temperature, and number of injections.



Reduce hazardous waste

Intelligent GC features

GC intelligence and automated troubleshooting can detect problems and stop your instrument before samples are wasted. That means you can minimize the need for re-extraction and rerun, which require the use of extra resources.

– Agilent CrossLab Virtual Tech Support

Receive live technical help remotely through the latest video communication tools—minimizing vehicle emissions associated with onsite service calls.

– Restriction of Hazardous Substances (RoHS) compliance

All Agilent GC systems and autosamplers are RoHS compliant, which means they do not exceed the allowable amounts of certain hazardous materials.



Keep instruments out of landfills

Agilent Certified Pre-Owned Instruments

Our certified pre-owned instruments deliver like-new performance, reliability, and speed at an affordable price. And they're backed by our 12-month warranty, so you can be sure you'll get years of reliable performance.

Agilent Trade-In and Buyback Program

Do you have instruments you no longer use? Our trade-in and buyback program gives you cash or credit for your older chromatography, MS, and spectroscopy systems.





Agilent Value Promise

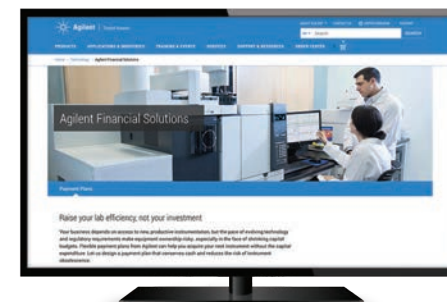
Agilent instruments are guaranteed to have a useable lifetime of at least 10 years, and can last upwards of 20 years with proper care and maintenance.

How2Recycle Program

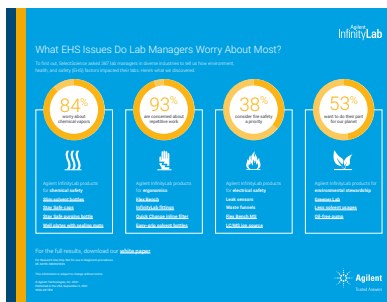
Standardized How2Recycle labels on Agilent packaging clearly communicate recycling instructions to our customers.

Explore these intelligent GC and GC/MS resources

-  **White paper:**
Improving Return on Innovation in Gas Chromatography
-  **On-demand webinar:**
Intelligent GC Systems: Remote Operations and the Future of GC
-  **Infographic:**
Agilent CrossLab Smart Alerts: Condition-Based Instrument Diagnostics
-  **Poster:**
GC/MS Best Practices



There's more than one way to acquire an intelligent GC with energy-saving and gas-management features. [Learn more about Agilent Financial Solutions.](#)



A safe, sustainable lab is a productive lab

Labs are facing challenges that were unimaginable just a few years ago. To stay productive, they need every advantage they can get. That’s why maintaining high environmental, health, and safety (EHS) standards is a smart business decision.

Which EHS issues affect lab productivity the most? Agilent wanted to find out, so we surveyed more than 300 lab managers around the globe.

[Download our infographic](#) for a quick-look summary of our survey.

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