



Providing Complete Solutions for Environmental Analysis

AGILENT HELPS SCIENTISTS MEASURE THE HEALTH OF THE PLANET

Environmental labs around the world use technologies from Agilent to test the air, water and soil for harmful compounds. They use the company's solutions to quickly and accurately detect trace levels of pesticides and a growing list of emerging contaminants that are showing up in the world's rivers, lakes, and groundwater with increasing frequency.

Environmental analysis is vital work that Agilent instruments have supported for more than 40 years, starting with the company's first gas chromatograph and continuing today with a range of ever-more-sophisticated technologies.

As a partner to industry, researchers, and regulatory agencies worldwide, Agilent has developed important processes and instruments to detect harmful organic and inorganic contaminants—trace metals, pesticides, herbicides, disinfectant byproducts, and volatile hydrocarbons, to name a few—wherever they may turn up.

Agilent's gas and liquid chromatographs separate mixtures into their individual components. The company's mass spectrometers can identify target compounds and determine the amount of each, down to parts per trillion. The portfolio also includes technologies such as inductively coupled plasma mass spectrometry and ultraviolet and infrared molecular spectroscopy.

Drinking water and waste water analysis

Agilent is committed to helping protect the quality of the public water supply by developing and manufacturing innovative screening and analysis solutions for a wide of compounds specified in environmental regulatory methods, including organic contaminants such as pesticides, herbicides, and pharmaceutical and personal-care product residues, and inorganic species such as arsenic, chromium, and mercury. With innovative and market-leading technology, the company's instruments are unrivaled in their ability to identify a wide range of these compounds in ultra-low concentrations.

Take perchlorate, for example. A propellant for rockets, missiles and fireworks, perchlorate is a regulated contaminant that affects thyroid function. Agilent has developed highly sensitive and reliable liquid chromatography/mass spectrometry methods for detecting and quantitating perchlorate in drinking water.

The presence of pharmaceutical residues in drinking water is of growing public concern as well. Drugs for birth control, depression, and other maladies, for example, have potent active ingredients that can affect a wide range of organisms even in trace amounts. High quantities of pharmaceutical residues—especially steroids—are often found in waste water, and not entirely removed through the sewage treatment process can have negative effects on a variety of ecosystems.

Agilent works with leading environmental labs to provide solutions to measure a wide range of these compounds in water at parts-per-trillion levels.

Air quality analysis

Volatile hydrocarbons (chemicals used in paint thinners, nail-polish removers, and other solvents) evaporate quickly and contribute to ground-level ozone, one of the main components of smog. Agilent has teamed up with channel partners to develop powerful gas chromatography-based systems for unattended, round-the-clock monitoring of these globally regulated compounds in air. Special configurations of Agilent's gas chromatographs are designed for greenhouse gas analysis and can simultaneously detect hydrocarbons and other compounds at superior levels of sensitivity and reliability.

Soil, sludge, and sediment analysis

Exposure to certain pesticides can disrupt the human endocrine system and result in maladies such as birth defects and breast cancer. Agilent provides a wide range of analytical systems (gas or liquid chromatography in combination with mass spectrometry) that screen samples for thousands of pesticides. Agilent's inductively coupled plasma mass spectrometry systems, for example, make it easy to detect minute amounts of harmful elements such as arsenic, mercury, and selenium in soils and plant materials.

Mobile measurement solutions

Agilent's mobile measurement solutions are revolutionizing environmental testing and analysis. The company's portfolio features sophisticated handheld LC, GC, GC/MS and FTIR measurement instruments that bring laboratory-quality analysis into the field when and where they're needed, minimizing run time and expense, while maximizing precision and reliability.

Fulfilling demands in environmental testing and analysis

Rapid, effective environmental screening and analysis technologies are vital tools in the effort to protect human health and ensure global sustainability. Agilent provides a comprehensive suite of environmental solutions to industry and regulatory agencies around the world. These high-speed, high-precision, multi-element analysis tools are enabling laboratories to effectively manage growing workloads, maximize the time spent on measurement, and minimize time spent on sample collection and preparation.

To learn more, visit Agilent's [Environmental Solutions](#) website.