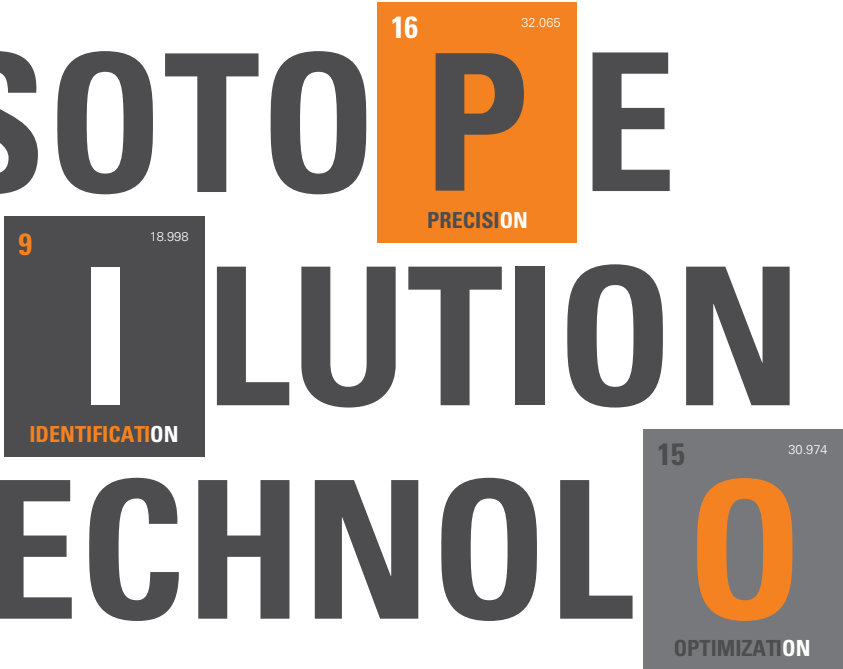


**MEETING STRINGENT LIMITS WITH CONFIDENCE -  
SGS ULTRACTRACE ANALYSIS**

# ISOTOPE DILUTION TECHNOLOGY



## MEET STRINGENT DETECTION LIMITS OF REGULATED COMPOUNDS WITH A KNOWN AND NEEDED LEVEL OF CONFIDENCE USING ULTRATRACE ANALYSIS FROM SGS

The trend in environmental legislation and regulation has been increasingly driven by attempts to measure exposure and associated health effects in the population via risk assessments. For these studies to have meaning, it is necessary to detect hazardous compounds at significantly lower levels. In the area of dioxins/furans, coplanar PCBs, polynuclear aromatics and pesticides, the necessary detection levels have resulted in the need for superior detectors, fit-for-purpose technology and effective quality control. Ultratrace analysis based on true isotope dilution, using high-resolution gas chromatography coupled with high-resolution mass spectrometry (HRGC-HRMS) has become the preferred analytical technique.

## ABOUT SGS

### ULTRATRACE ANALYSIS

Our analytical services and advanced technologies:

- Apply fit-for-purpose procedures and controls that continually improve and adapt laboratory performance to generate effective data. Our comprehensive approach also determines the analyte- (as well as TEQ) and sample-specific combined standard uncertainty to demonstrate data quality, and to aid sampling and experiment design
- Process PCDD/F congener profiles using our dfa technology for quality control purposes, and shed light onto the mechanisms of formation, helping our clients identify causes of deviations from normal operation (exceedance of regulated action/emission levels)
- Target and report all 136 PCDD/F tetra-through octa-chlorinated congeners by name, and with appropriate controls to ensure distortion-free isomer profiles
- Exceed existing methods requirements by using true isotope-dilution mass spectrometry for all TEF-target analytes, providing the most accurate TEQ determination
- Identify unknown compounds using high-resolution analysis with library searching and/or exact mass measurement with elemental composition determination

## THE BENEFITS OF SGS

### ULTRATRACE ANALYSIS

Our ultratrace services offer:

- Analysis of dioxins/furans, PCBs, PAHs, SVOAs and pesticides using EPA Methods 23, 8290, 1613, 1668, 1699, 0023A, TO-9A, CARB 428, 429, and their international equivalents/derivatives; WHO-2 (combined D/F+PCB analysis, e.g. for EU food/feed testing)
- Instrumentation includes eight high-resolution, magnetic-sector, double-focusing mass spectrometers
- Project specific method development and consulting unsurpassed in the industry
- Certifications including NELAC, US States, and USDA international soil permit
- Turnaround times up to our ultra-rapid 55-hour D/F analysis
- A quality assurance program compliant with good laboratory practice standards (GLP), FIFRA/TSCA GLPs, and laboratory quality control samples that meet/exceed method criteria
- Data reports that include high resolution, indexed PDFs with full-color chromatograms, plus our unique performance-based criteria analysis (PBCA). Chromatographic data may be reviewed interactively using our proprietary UTP software
- Online reporting of data from SGS Engage, an encrypted and password protected website

Our approach brings science and service back to laboratory work. Contact us for further information or for assistance with a challenge.

## WHY SGS?

SGS is the world's leading inspection, verification, testing and certification company. Recognised as the global benchmark for quality and integrity, we employ over 64 000 people and operate a network of more than 1 250 offices and laboratories around the world. We are constantly looking beyond customers' and society's expectations in order to deliver market leading services wherever they are needed.

We have a history of undertaking and successfully executing large-scale, complex international projects. With a presence in every single region around the globe, our people speak the language and understand the culture of the local market and operate globally in a consistent, reliable and effective manner.

We provide innovative services and solutions for every part of the environmental industry. Our global network of offices and laboratories, alongside our dedicated team, allows us to respond to your needs, when and where they occur. Our reputation for independence, excellence and innovation has established us as the market leader in providing services that improve efficiency, reduce risk and deliver competitive advantage for you.

## TO LEARN HOW SGS SUPPORTS YOU IN MEETING REGULATED LIMITS CONTACT:

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**WHEN YOU NEED TO BE SURE**

