



# Contamination Control



Material Analysis lab is part of the extensive range of services you can access at Philips Innovation labs on the High-Tech Campus Eindhoven. From device technologies and systems creation, to materials analysis, test and measurement, discover the possibilities yourself at [www.innovationlabs.philips.com](http://www.innovationlabs.philips.com)

Building on Philips Electronics' fifty years of experience in semiconductor development and manufacturing, Philips Innovation labs Material Analysis lab offers a wide range of contamination control services. Through the application of a large number of analytical technologies, we help our customers with contamination control issues as diverse as analysis of supply gases at the ppq levels to sub-monolayer analysis of wafer surfaces. Our services include research and development of new techniques, solving contamination problems at-site and providing routine analyses for existing products and processes.

Clean room	Application	Technique
Clean room air	Particle count and size	Counter
	Airborne molecular contamination (AMC)	GC-FID/MS
	Sweeps and wipes: leaching / digestion: anions and cations	IC and ICP-MS
Supplies: gases	Total organic contamination (TOC)	TD-GC-FID
	Moisture	NIR-TDL/QCM
	Acids/bases	Trapping-IC
	CO/CO <sub>2</sub>	NDIR
	Hydrogen/oxygen	Gas-MS
	Particle count and size	Counter
Supplies: ultrapure water	Total organic carbon (TOC)	TOC-analyser
	Anions and cations	IC and ICP-MS

Equipment	Application	Technique
Cleanliness validation of parts & products	Total organic contamination (TOC)	TD-GC-FID/MS
	Anions and cations	IC and ICP-MS
	Refractory compounds (S, Si, P, B containing)	GC-AED
	Organics	FT-IR, Raman
Trouble shooting	Particles, stains	SEM
	Organics	FT-IR, Raman
Equipment qualification	Bulk impurities	(TOF-)SIMS, LA-ICP-MS
	Surface contaminants	XPS, TOF-SIMS, RBS

Wafers & Devices	Application	Technique
Wafers	Particles, stains	SEM, Auger, TEM, AFM
	Organics	FT-IR, Raman, XPS, TOF-SIMS
	Surface contaminants	TOF-SIMS, TXRF, VPD-AAS
Devices	Particles, etch residue	SEM, XPS, Auger, TEM, AFM
	Organics	FT-IR, Raman, XPS, TOF-SIMS
	Gas effusion	TGA/TPR-MS

World-class expertise – working for you



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