

Samples from air, soil, sediment, sludge, waste, and wastewater are challenging to analyze. We offer a wide range of solutions designed for quick, efficient, and reliable sample preparation and testing for assessment of environmental pollution.

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Ingenious solutions for your matrices
Covering a wide variety of analytes

A clean and safe environment is a prerequisite for health and quality of life. BUCHI contributes to this by providing market-leading solutions for sample preparation and analysis to a wide range of industrial companies, environmental testing labs, consultants, and government authorities.

Soil, sludge, sediment



Analyte:
PCDD/PCDF, PAH, PCB, flame retardants (BFR, PBDE), TPH, pesticides, Total Kjeldahl Nitrogen (TKN), trace and heavy metals, ammonia

Matrix:
soil, sediments, sludge, brownfields

Compliant with e.g.:

- | | |
|-----------|---------------|
| EPA 1613B | ISO 10382 |
| EPA 1664 | ISO 11261 |
| EPA 1668B | ISO 11466 |
| EPA 3540C | ISO 13859 |
| EPA 3541 | ISO 16703 |
| EPA 3545A | ISO 18287 |
| EPA 8082A | DIN ISO 11261 |
| EPA 8290A | EN 13342 |
| EPA 8270 | DIN 13346 |
| EPA 9071 | DIN 38414 |

Waste



Analyte:
Restriction of hazard substances (RoHS): PBDE and PBB, phthalate esters (eg. DEHP, BBP, DBP, DIBP) lead and cadmium from electrical and electronic products, trace and heavy metals

Matrix:
e-waste, recycled material, polymer waste, bio waste

Compliant with e.g.:

- EPA 8270
IEC 62321
Directive 2002/95/EC
EN 14039
EN 15308
DIN EN 13657
ISO 16797

Assess the quality and potential health and environmental impact of air, soil, sediment, sewage sludge, waste, and wastewater with our sample preparation and testing solutions.

Water, wastewater



Analyte:
PAH, PCB, TPH, flame retardants (BFR, PBDE), Total Kjeldahl Nitrogen (TKN), phenol, cyanide, formaldehyde, chemical oxygen demand (COD), ammonia, nitrate and nitrites, phosphate

Matrix:
municipal and industrial water discharges, water from sanitation, surface water, runoff from fertilized lawns, animal manure and storage areas

Compliant with e.g.:

- | | |
|-------------|----------------------|
| EPA 608 | ISO 5663 |
| EPA 8081 | ISO 9377-2 (DIN H53) |
| EPA 8082A | DIN 38406-E5-2 |
| EPA 9010C | DIN 38409 |
| EN 38414-20 | NEMI D6303 |
| AOAC 973.48 | |

Air



Analyte:
PCDD/PCDF, PCB, nitrate, nitrite, ammonia

Matrix:
ambient air, stack gas, incineration, car exhaust and fly ash

Compliant with e.g.:

- EPA 3542A
EPA TO-4A
EPA TO-9A
EPA TO-10A
EPA TO-13
EN 1948

Find your solutions at:
www.buchi.com/environmental



Dedicated solutions along your value chain
Covering the most important analytes in modern analysis

Our diverse environmental testing portfolio for sample preparation includes classical Soxhlet and hot extraction, pressurized solvent extraction, acid digestion, steam distillation, and organic extract concentration to final volume or residue.

Solutions by BUCHI	Analytes and parameter groups	Soil Sludge Sediment	Waste	Waste / Wastewater	Air	Sampling	Homogenization Grinding Sieving	Digestion Separation Extraction	Evaporation Concentration Distillation	Clean-up	Analysis
«Extraction Throughput»	Pesticides, PAH, PFC, TPH, phthalates, POPs as flame retardants (BFR), PCDD/PCDF, PCB	•	•		•	•	•	Extraction	Concentration	(•)	GC/MS HR-GC/HR-MS LC/MS
«Extraction Universal»	Pesticides, PAH, PFC, TPH, phthalates, POPs as flame retardants (BFR), PCDD/PCDF, PCB	•	•		•	•	•	Extraction	Concentration	(•)	GC/MS HR-GC/HR-MS LC/MS
«Digestion & Distillation»	TKN, urea, ammonia, nitrate, nitrite, cyanide, formaldehyde, phosphate	•		•	•	•	•	Digestion	Distillation		Titration
«Reflux Digestion»	Trace and heavy metals, COD	•	•	•		•	•	Digestion			ICP (metals) Titration (COD)
«Parallel Evaporation Pre-Analytical»	Pesticides, PAH, PFC, TPH, phthalates, hydro-carbon oil index, CHC/HCH, PCB, DDT, PAH, POPs as flame retardants (BFR), PCDD/PCDF	•	•	•	•				Concentration	(•)	GC/MS HR-GC/HR-MS LC/MS

• inherent step (•) optional

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The best solutions for your need
Search according to workflow, sample matrix, or analyte

						
		SpeedEx-tractor E-914 / E-916	Universal-Extractor E-800	R-300 «Dynamic»	SyncorePlus Analyst R-12, R-6, R-4	Multivapor™ P-12 / P-6
Workflow steps		Extraction		Evaporation, concentration & drying		
«Pressurized Solvent Extraction»		•		•		
«Solvent Extraction»		•		•		
«Pre-analytical Evaporation»				•		
«Reflux Digestion»						
«Digestion & Distillation»						
Soils / Sediments / Sewage sludge						
Matrices / Analyte	Pesticides, PAH, PFC, TPH	•	•	•	•	•
	POPs as flame retardants, PCDD/PCDF, PCBs	•	•	•	•	•
	Nitrogen (TKN), urea					
	Nitrate, nitrite, ammonia					
	Trace and heavy metals					
	Waste / Hazardous waste					
	PAH, PCBs	•	•	•	•	•
	Phthalates	•	•	•	•	•
	RoHS: trace metals, heavy metals					
	RoHS: flame retardants	•	•	•	•	•
	Waste / Wastewater					
	Pesticides, PAH, PCB, TPH			•	•	•
	Hydro-carbon oil index				•	
	Nitrogen (TKN), urea					
	Nitrate, nitrite, ammonia					
	COD, phosphate					
	Phenol, cyanide, formaldehyde					
	Oil and grease		•			
Air / Fly ash						
Dioxins/furans and other POPs	•	•	•	•	•	
Nitrate, nitrite, ammonia						
Characteristics						
No. of samples per run		6 / 4	6	1	12 / 6 / 4	12 / 6
Tube size [mL]		10 – 120	65 / 120	20 – 3000	0.5 - 500	5 – 180

 SPE Module SyncorePlus AnalystSpeedDigester K-425 / K-436 / K-439KjelDigester K-446 / K-449Distillation Units K-350 / K-355KjelFlex K-360KjelMaster System K-375 / K-376 / K-377								
SPE	Digestion		Distillation			Sample per day		
						72 – 96		
						24 – 48		
•						10 - 40		
	•					6 – 36		
	•			•		72 – 96		
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12 / 6	6 or 12	20	1	1	1 / 24 / 48			
5 – 120	100 / 300 / 500	300	100 / 300 / 500					

Workflow for contaminant analysis
Extraction as sample preparation for environmental analysis



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