

RADIOACTIVITY TESTING

www.radiological-analysis.com

ALS Life Sciences laboratories for radiochemistry and radiological analysis offer a comprehensive measurement program designed to monitor levels of radioactivity for the environmental stakeholders, industrial sectors and food industries.

Radiological analysis can be performed in the following areas

Drinking water

- World Health Organisation guidelines, European Union Directive, Country-specific guidelines/legislation
- gross alpha activity (G α A), gross beta activity (G β A), tritium, radon
- if G α A and/or G β A exceeds screening levels, nuclide specific analyses and an evaluation of the Total Indicative Dose (K-40, U-238, U-235 and U-235, Ra-226 and others)

Food and feed industry

- Euratom legislation (Cs-134, Cs-137, I-131, Pu-239 and Pu-240, Am-241, Sr-90)
- Customs Union technical regulation (Cs-137, Sr-90)

Environment

- Natural radionuclides (NORM), man-made radionuclides
- Soil and subsoil, peat, sediment
- Surface and ground water
- Spa water
- Monitoring of biomass, fauna and flora
- Environmental tracers (lichens, bio-indicators)

Industrial sectors

- Building materials (Ra-226, Th-228, K-40)
- Mining (minerals including rare earth elements, waste)
- Metals foundry and processing
- Refractory materials
- Coal and coal ash
- Fertilizers
- Wastewater treatment sludge
- Tartar and sludge – petroleum and gas industry
- Harbour and rivers dredged materials
- Monitoring of the vicinity of nuclear facilities



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Analytical Methods

ALS Life Sciences are able to provide a broad range of natural and artificial radionuclide analyses to potentially help identify the source of contamination utilising the latest instrumentation:

- High resolution ICP-MS (ICP-SFMS)
- Low-level Alpha counters
- Low-level Beta counters
- Liquid scintillation counters
- Scintillation emanometers
- NaI(Tl) gamma spectrometers (for Rn-222)
- High resolution gamma-ray spectrometers (HRGRS)

Short capability summary

- **Alpha emitters:** Am-241, Ra-226, U-235, U-238, Rn-222, Po-210, Ra-226
- **Beta emitters:** C-14, Sr-90 + Y-90, Tritium
- **Gamma emitters:** Cs-134, Cs-137, I-131, Ru-106, Co-60, K-40, Ra-226, Th-234, Th-230, Pb-210, U-235, Pa-231, Ac-227, Th-227, Ra-223, Ra-228, Th-228
- **Radon**

To learn more about our capabilities in radiology, you can consult the site of our specialised laboratories

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