

Radioactivity

The measurement of radioactivity allows the assessment of how environments are contaminated by radionuclides, both for natural causes and human activities. The reference is **European EURATOM** legislation and subsequent national transpositions.

Analysis of radioactivity in water



Aiming at assuring maximum protection to population in relation with radioactive substances in **potable water**, specific EURATOM Directive envisages the control of:

- **Tritium** activity concentration
- **Radon** activity concentration
- **Total alpha and total beta** activities and consequent Indicative Dose evaluation

This technique is the **low-level liquid scintillation** with alpha/beta discrimination. For other types of water:

- the same parameters monitored for potable water (low-level liquid scintillation)
- gamma-emission radionuclides screening

Measurement of radioactivity in solids and air



There are areas **affected by delicate environmental issues** - that hosted anthropic activities like mines, energy production plants, water treatment plants, plants for the production of fertilizers - on which we can perform radiometric characterization of waste or soils through:

- **gamma-emission radionuclides screening**, that can be performed on all environmental matrices.

We also perform **environmental air monitoring** in areas at risk through the analysis of **ambient air suction filters**: these controls are aimed to protect the health of both workers and population.

Reliability and experience of Mérieux NutriSciences laboratory

There are many factors that influence the correct test performance: for example, the pre-treatment of the matrix and sample homogeneity, the choice of the container and its correct filling, the background radioactivity and calibration.

To tackle these difficult tasks, the experience of the lab is fundamental: Mérieux NutriSciences has a long experience in this field, and **constantly interacts with Supervisory Official Bodies** for specific projects; moreover, we work to guarantee **reliable data** and **correct interpretation of results**.



High level equipment

Mérieux NutriSciences determines the quantity of gamma-emitting radionuclides by gamma spectrometer equipped with a germanium solid state detector (HPGe, High Purity Germanium Detector).

The reference standard is UNI ISO 11665 containing the official analytical method for radioprotection.



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