

CHALLENGES

The challenge of nuclear waste disposal is to ensure the safety of goods and people at a reasonable price. Therefore, **the accurate characterization of waste** is essential because it provides information needed to select the most suitable storage solution. However applied characterization methods **must tackle specific difficulties** linked to :

- the various matrices that surround the waste and affect results from classical methods
- the various origins of the sources present in the containers

SOLUTION

HEAT-CHECK LV is a solution for the characterization of nuclear waste that is based on calorimetry. It quantifies or detects the nuclear materials present in a container based on heat release. It is therefore non-destructive, and not affected by matrices and conditioning.

- Container volume from 90 to 380 L
- Accuracy <1% Precision <0.5% to 1%
- Options for automation, integration in measurement lines
- Software for data coupling with gamma spectrometry

BENEFITS

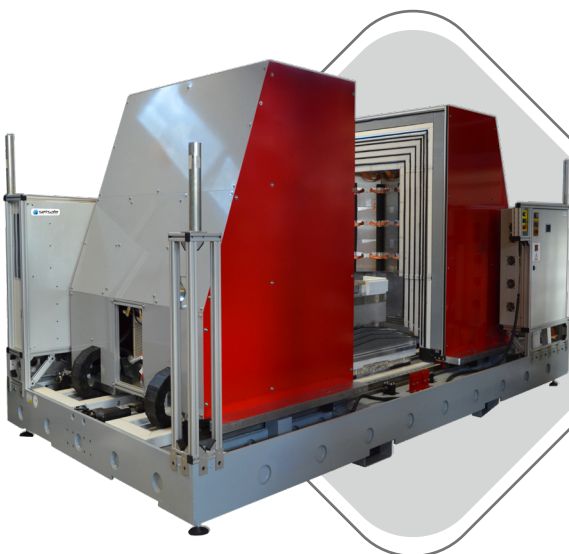
Characterizes precisely

- HEAT-CHECK LV's heat measurements are very reliable
- They allow for the detection of isotopes that are non - or poorly - detectable by gamma spectrometry or neutron counting
 - ^3H , $^{90}\text{Sr}/^{90}\text{Y}$, $^{106}\text{Ru}/^{106}\text{Rh}$, ^{238}Pu , ^{241}Am , ^{244}Cm
 - shielded sources, invisible to gamma such as ^{60}Co , $^{99}\text{Mo}/^{99\text{m}}\text{Tc}$ ou ^{252}Cf

Tackles specific characterization difficulties

- In the case of poorly known, heterogeneous or variable matrices
- In the case of hydrogenated matrices (concrete, bitumen), in presence of metallic objects

HEAT-CHECK LV



MEASUREMENTS OF LARGE VOLUME WASTE OR CONTAINERS

Up to 90 to 380 liters

QUANTITATIVE AND NON-DESTRUCTIVE MEASUREMENTS

With the highest accuracy for isotopes like plutonium or tritium

RESULTS INDEPENDENT OF MATRIX AND CONDITIONING EFFECTS

Ideal addition to gamma spectrometry

SOFTWARE AND AUTOMATION OPTIONS

For simple and safe use