CHALLENGES

Implementation or consolidation of low activity waste management chains may require their **in-depth characterization**. This applies to graphite waste generated from the decommissioning of reactors using this moderator material. Their radiological inventory and their long-term behavior need investigation because they contain long life radionuclides such as ^{14}C and ^{36}Cl that tend to disseminate in geological environments. However their characterization is made difficult by the presence of corrosion and activation products like ^{60}Co and ^{3}H.
The first hinders gamma spectrometry measurements, the second impacts neutron counting, and both have a higher specific thermal power than ^{14}C and ^{36}Cl.

SOLUTION

HEAT-CHECK ULTRA is a nuclear materials' characterization solution based on a highly sensitive calorimetry method. It has initially been developed to characterize graphite waste but can be applied to other waste or materials.

- Detection limit equivalent to 0,3 g of ^{3}H
- Capacity 40 L or more
- Coupling with gamma spectrometry and digital simulation

BENEFITS

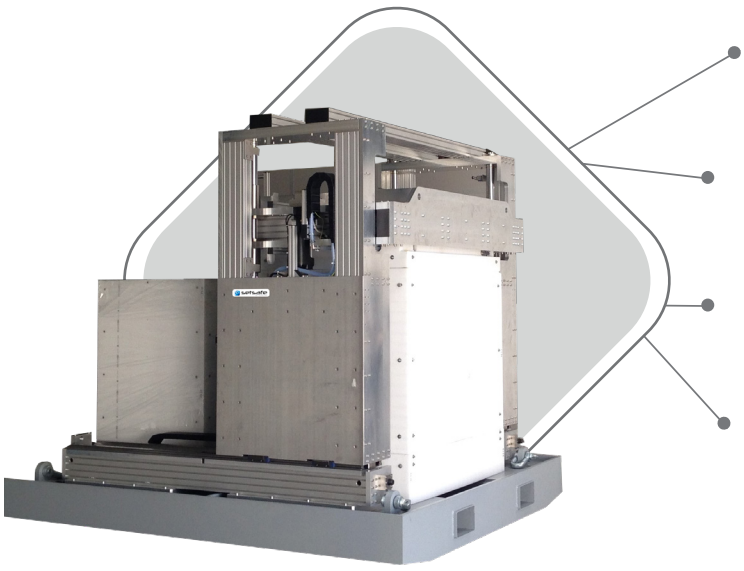
Simplicity and safety

- Non-destructive control
- For a variety of container shapes, dimensions, quantities and composition

In-depth characterization

- Accurate measurements, with an extremely low detection limit
- Coupled with gamma spectrometry in digital simulation to subtract the contribution of perturbating radionuclides

HEAT-CHECK ULTRA



A UNIQUE DETECTION LIMIT
For medium size container characterization

QUANTITATIVE AND NON-DESTRUCTIVE MEASUREMENTS
With the highest accuracy for some 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

KEP Technologies

ENHANCING MEASUREMENT. ADVANCING SAFETY.