

Routine inspections for radiation in food are performed most economically and user friendly with the Thermo Scientific Highly Sensitive Gamma Laboratory Kit.

Thermo Scientific Highly Sensitive Gamma Laboratory Kit

Portable Marinelli system for routine food measurements



- Simple handling
- High throughput
- Cost effective
- Results in typically less than one minute
- 1l sample volume Marinelli system
- Highly gamma sensitive NaI(Tl), 2x2" cristal detector
- Portable, robust system in a transport cases
- RadEye SX meter for multipurpose use
- Battery power supply supports field operation
- Data logger for 1000 sample measurements

The portable Thermo Scientific Highly Sensitive Laboratory Kit supports the laboratory and also field measurement program for contamination resulting from a nuclear accident.

The Highly Sensitive Laboratory Kit combines a 1.0 l Marinelli beaker with the 2x2" NaI(Tl) probe model SPA-3. Data evaluation and display is performed by the low power RadEye SX multipurpose meter. This combination allows low limits of detection within short measurement time.

The optional shielding kit provides 15 mm lead around the Marinelli beaker allowing a further reduced measurement time or an even lower detection limit.

Measurement results are displayed as gross gamma rates in counts per second (cps) unit. Conversion factors translating the 'cps' results into Bq/l are provided in reference to the dominant elements (Iodine and Cesium) emitted by the Fukushima accident.

The system has the capability to measure contamination levels for I-131 and Cs-134/137 to better than typical Derived Intervention Levels (DIL) in less than 60 seconds.

Highly Sensitive Gamma Laboratory Kit

The Thermo Scientific SPA-3 scintillation probe uses a 2x2" NaI(Tl) crystal detector for most efficient gamma radiation measurement. The Thermo Scientific RadEye SX multimeter provides energy windows for two energy regions of interest (ROI) for efficient and user friendly operation. The aluminium base plate shields bremsstrahlung from beta radiation in the ground. The sturdy tripod is easily assembled or stowed in the transport case.



The shielding kit provides 15 mm lead around the Marinelli beaker. The kit is supplied in its own transport case and is easily installed.

High Sensitivity Gamma Laboratory Kit (# 425069025)

Sensitivity

Typical detection limits for I-131, Cs-137, Cs-134 (measurement time 60 s)

with lead shielding kit	approx. 30 Bq/l
without lead shielding kit	approx. 60 Bq/l

Detection System

Sample volume	1000 ml Marinelli beaker (2 pcs included)
Gamma detector	SPA-3 probe (2x2" NaI(Tl))
Display and control	RadEye SX handheld meter for scintillators

Carrying Case

Dimensions & total weight (approx.)	H 420 mm, W 490 mm, D 240 mm. 14 kg
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Lead Shielding Kit for Marinelli Beaker (# 425069021)

Shielding Material

Bottom shielding	15 mm thick, black coated Pb cup with hole for SPA-3 probe
Top shielding	15 mm thick, black coated Pb cap with handle
Weights	Bottom cup: 8.9 kg, top cap: 9.5 kg

Carrying Case

Dimensions & total weight (approx.)	H 420 mm, W 490 mm, D 240 mm, 25 kg
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Cs-137 Check source (#SM149479010) and 9 g Lutetium Test Adapter (# 425068571)

Cs-137	3.7 kBq (0.1 µCi), sealed in a 1" resin chip
Lutetium Test Adapter 9g	50 Bq/g (1.3 nCi/g), 50mm dia. chip (acrylic glass housing)

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