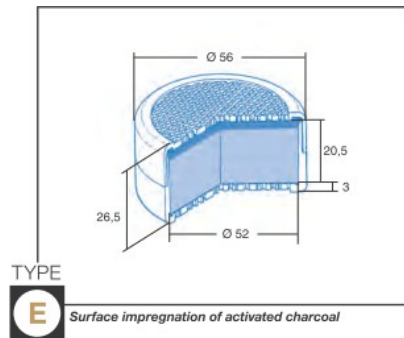


CHARCOAL CARTRIDGE FOR I-131 MONITORING

This cartridge is impregnated with radioactive material (^{133}Ba) and is used to **check and calibrate equipment that measures charcoal cartridges used for monitoring I-131.**

I-131 has gamma rays at 364 keV (81.2%) and at 636, 642, and 723 keV with branching ratios of 7.27, 0.220 and 1.80%, respectively. Ba-133 has gamma rays at 356 (61.94%) and 384 keV (8.905%). **The gamma rays at 356 and 384 keV from Ba-133 are used to simulate the 364 keV gamma ray of I-131 (81.2%).**

To produce the same number of gamma rays as 1 uCi of I-131 (at 364 keV), the amount of Ba-133 required will be $81.2/(61.94+8.90) = 1.146 \mu\text{Ci}$.



E Geometry (face-loaded type) : a radioactive disk is placed in contact with one of the inside surfaces of the housing to simulate surface contamination.

The activity of the ^{133}Ba is homogeneously distributed over the surface of a disk 50 mm in diameter which is hot-sealed between two thin plastic foils.

The cartridges are made of a leak tight polycarbonate housing (volume: 44 cm³) containing the activated charcoal.

The sources are provided with an activity certificate

- Activity tolerance : +/- 30%
- Measurement uncertainty (at k=2) : 5%

Different activities and geometries can be proposed upon request.

For Pricing and Delivery Information Please Contact

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About LEA

LEA engineers, produces and distributes radioactive sources for calibration and control purposes. Based in the South of France, LEA operates under COFRAC* accreditation for ionizing radiation measurement, with traceability to LNHB, France's primary laboratory equivalent to NIST in the US. COFRAC is a signatory of the Mutual Recognition Agreement (ILAC MRA).

More information available at www.lea-sources.com

* accreditation n°2-6386. Scope available at www.cofrac.fr