ORANO LEA

Alfa- och betakällor

Calibration sources

Alpha and beta sources for calibration and operational checks of contamination monitors, probes and alpha spectrometers.



Radiation	Source formats	Use
Alpha or beta [1]	**Point sources and wide areas: discs, planchets, rectangles or squares** [1]	**Calibration of alpha spectrometers and contamination monitors** [1]

Specifications

DETECTOR

Radiation	Alpha or beta	[1]
Standard radionuclides, EAS alpha	U-233, Pu-238, Pu-239, Am-241, Cm-244	[2]
Alpha-flux measurement uncertainty, EAS catalog	≤1.5% at k=2	[2]
Example radionuclides, EBS beta	Cl-36, Co-60, Sr-90/Y-90, Cs-137/Ba-137m, Pm-147	[3]

MECHANICAL

Active diameter, standard EAS	15 mm	[2]
Active diameter, standard EBS	3–30 mm	[3]
Active diameters, standard ESA discs	15, 36, 44 or 110 mm	[4]
Mounting	A/B: aluminum ring; C/D: unmounted	[2]

ENVIRONMENT & RATINGS

Source formats	Point sources and wide areas: discs, planchets, rectangles or squares	[1]

ORDERING & ACCESSORIES

Geometry options	Replace [Type] with A, B, C or D when ordering	[2]

GENERAL

Use	Calibration of alpha spectrometers and contamination monitors	[1]
Equivalent activity, EAS catalog	0.3, 0.8 or 3 kBq, depending on nuclide	[2]
Equivalent activity, EBS catalog	0.08 or 3 kBq	[3]
Equivalent activity, standard ESA discs	Alpha: 0.4 kBq; beta: 4 kBq	[4]
Measurement uncertainty	≤1.5 %; k=2	[2]

Manufacturing tolerance	±30 %	[2]
Substrate and deposition	Stainless steel disk with electrodeposited radionuclides	[2]
Listed ISO 2919 class	C11111	[2]

Models

Model	Radionuclide	Alpha emission into 2π sr	Equivalent activity	Export control
9ML04 EAS [Type] 25	^{239}Pu / ^{241}Am / ^{244}Cm [2]	400 α/s [2]	0.8 kBq [2]	Subject to dual-use export control (EC Regulation 428/2009); an end-user certificate is requested [2]
AM241 EAS [Type] 20	^{241}Am [2]	150 α/s [2]	0.3 kBq [2]	–
AM241 EAS [Type] 30	^{241}Am [2]	1500 α/s [2]	3 kBq [2]	–
CM244 EAS [Type] 20	^{244}Cm [2]	150 α/s [2]	0.3 kBq [2]	–
CM244 EAS [Type] 30	^{244}Cm [2]	1500 α/s [2]	3 kBq [2]	–
PU238 EAS [Type] 20	^{238}Pu [2]	150 α/s [2]	0.3 kBq [2]	–
PU238 EAS [Type] 30	^{238}Pu [2]	1500 α/s [2]	3 kBq [2]	–
PU239 EAS [Type] 20	^{239}Pu [2]	150 α/s [2]	0.3 kBq [2]	Subject to dual-use export control (EC Regulation 428/2009); an end-user certificate is requested [2]
PU239 EAS [Type] 30	^{239}Pu [2]	1500 α/s [2]	3 kBq [2]	Subject to dual-use export control (EC Regulation 428/2009); an end-user certificate is requested [2]
U233 EAS [Type] 20	^{233}U [2]	150 α/s [2]	0.3 kBq [2]	Subject to dual-use export control (EC Regulation 428/2009); an end-user certificate is requested [2]

Sources

[1] α and β solid sources
LEA / Orano · product-page · product page · checked 2026-10-16
https://www.orano.group/lea/en/radioactive-sources/alpha-or-beta-sources

[2] Point α sources
LEA / Orano · product-page · product page; reference table (Under COFRAC accreditation); Manufacturing tolerances · checked 2026-10-16
https://www.orano.group/lea/en/radioactive-sources/alpha-or-beta-sources/eas-point-alpha-sources

[3] Point β sources
LEA / Orano · product-page · product page · checked 2026-10-16
https://www.orano.group/lea/en/radioactive-sources/alpha-or-beta-sources/ebs-point-beta-sources

[4] Wide area α and β sources - Discs
LEA / Orano · product-page · product page · checked 2026-10-16
https://www.orano.group/lea/en/radioactive-sources/alpha-or-beta-sources/esa-wide-area-alpha-and-beta-source...

Every value is taken from the manufacturer's own document; the number after the value refers to the source list. Always check against the latest datasheet before ordering.

The data comes from the manufacturer's published documents. Manufacturers may change specifications; the current configuration and performance are confirmed in the quotation.