

# Nickel-63

## Beta Sources

Nickel-63 is electroplated on one face of a thin (0.05mm) nickel or nickel alloy (monel) foil.

These substrates minimize the loss of ion current occurring at elevated temperatures due to the diffusion of the active layer.

Nickel alloy foil is recommended for detectors where the natural springiness of the foil is used to retain the source.

Nickel-63 can be directly plated onto custom designed holders.

The maximum practical activity loading for efficient emission is 370MBq/cm<sup>2</sup> (~10mCi/cm<sup>2</sup>).

### US-Model numbers

Products with a US-Model-Number and additional QC Tests are available on request.

Model NBC refers to plated foils. Model NBCD refers to directly plated holders.

Nominal activity		On nickel foil 24 x 10mm*	30 X 10mm*
MBq	mCi	Product code	Product code
37	1	NBC1	NBC11
111	3	NBC2	NBC12
370	10	NBC3	NBC13
555	15	NBC4	NBC14

\*acc. to drawing VZ-2728-001

Nominal activity		On monel foil 24 x 10mm**	30 X 10mm**
MBq	mCi	Product code	Product code
37	1	NBC21	NBC31
111	3	NBC22	NBC32
370	10	NBC23	NBC33
555	15	NBC24	NBC34

\*\*acc. to drawing VZ-2722-001

Other areas are available with lengths between 10-50mm and widths between 3-30mm.

### Quality Control

Beta emission checked using a 2 $\pi$  ion chamber

Nickel-63 sources will gradually tarnish under normal atmospheric conditions. This results from exposure to air and is aggravated by moisture and, in a confined space, by the effect of beta radiation on air.

Nickel-63 sources should therefore be removed from their packaging on receipt and stored under inert atmosphere such as dry argon prior to use.