

### **Gamma Reference Source**

Source no.	NU 991
Drawing	VZ-477/2
Nuclide	Sodium-22
Activity	377 kBq
Reference date	1 December 2005 at 12.00 GMT
Leakage and contamination test	Wipe test according to ISO 9978.
Date of wipe test	3 November 2005
Measuring method	The activity of the source was determined by comparison with a reference source of the same construction using a sodium iodine detector with multichannel analyser.
Traceability	Additional to the direct traceability to the PTB through the DKD this product complies with the requirements for traceability to NIST specified in the American National Standard "Traceability of Radioactive Sources to the NIST and Associated Instrument Quality Control (ANSI N42.22-1995)". As a requirement of the ANSI N42.22-1995 AEA Technology QSA GmbH participates in the NEI/NIST Measurements Assurance Program of the Nuclear Power Industry.
Uncertainty	The relative uncertainty of the activity is 3 %. The reported uncertainty, determined according to the DKD-3 report is based on the standard uncertainty multiplied by a coverage factor of $k = 2$ , providing a level of confidence of 95 %. (Ref. NIST Technical Note 1297/"Guide to the Expression of Uncertainty in Measurement" ISO Guide, 1995)
Radioactive impurities	Related to Na-22 (equal 100 %) the following radioactive impurities were detected: none
Quality assurance system	The quality assurance system of AEA Technology QSA GmbH was certified by Lloyd's Register Quality Assurance (LRQA) according to ISO 9001, issue 2000. Isotrak products meet the requirements of 10CFR50 Appendix B in the USA.
Remark	---