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NOMINAL SOURCE CERTIFICATE

Product Code:	PF24RW-057-20M	***Quantity:***	1
Model:	PF24RW	***SS&DR No.:***	CA0406S180S
Active Region:	610 mm x 420 mm (24.0" x 16.5")	***ISO/ANSI Classification:***	ISO/99/C22414
Capsule Type:	EZIP drawing #3515	***Nuclide Half Life:***	271.79 ± 0.09 days
Cover/Backing:	Vinyl backed nylon	***Recommended Replacement Date:***	2021-09-01

Nuclide	*Serial Number*	*Activity*	*Reference Date*
Co-57	2131-112	740 MBq (20 mCi)	2020-03-01

Source Field Uniformity Measurement:

Source uniformity measurement of the 122/136 keV gamma emission was performed using a gamma camera scanning system. An array of "unit cells" was measured to calculate the uniformity data shown below.

Unit Cell Area:	0.91 cm^2	Integral Non-Uniformity (INU):	2.00%
Coefficient of Variation:	0.60%	Differential Non-Uniformity (DNU):	1.65%

Impurities: Co-56 and Co-58 combined is < 0.12% on 2020-03-01

Notes:

This document uses the numerical convention where 1.000 = 1 and 1,000 = 10^3.
This document uses the date convention YYYY-MM-DD in accordance with ISO 8601.
Nuclear data was taken from IAEA-TECDOC-619, 1991.
The referenced ISO/ANSI classification is compliant to ISO 2919:2012.
U.S. Patent #7,233,012.
Coefficient of Variation: The standard deviation of The distribution of The measured values by The mean of measured values.
Integral Non-Uniformity: (Max – Min)/(Max + Min), where Max represents the largest measurement and Min represents the smallest measurement in the useful region.
Differential Non-Uniformity: (Max – Min)/(Max + Min) represents the largest deviation between a central value and the eight surrounding measurements.
Leak Test Frequency = 6 months.
Nature of Active Deposit: Co-57 dispersed in resin matrix.

Leak Test:

The leak test(s) stated below was (were) either derived or directly taken from the leak test methods listed in ISO 9978:1992. The leak test(s) below complies (comply) with ISO 9978:1992 and does (do) not exceed the regulatory limit of <5 nCi (185 Bq) of removable alpha and beta-gamma emitting activities. Leak tests conducted resulted in <5nCi (185 Bq) of removable activity unless otherwise stated on this certificate.

This source was wiped over its entire surface with a moistened filter paper disk. After drying, the disk was checked for activity using a scintillation detector.

SIGNATURE

2020-01-09
DATE

NOTEBOOK: 2130-015