



U.S. Department  
of Transportation

1200 New Jersey Avenue, S.E.  
Washington, D.C. 20590

**Pipeline and  
Hazardous Materials  
Safety Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE USA/0508/S-96, REVISION 4**

This certifies that the source described has been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency<sup>1</sup> and United States of America<sup>2</sup> for the transport of radioactive material.

1. Source Identification - Eckert & Ziegler Isotope Products (EZIP) Model A3906.
2. Source Description - Cylindrical single IPL Model HEG-1 encapsulation constructed of Type 304 or 304L stainless steel and fusion seal welded. Approximate outer dimensions are 4.7 mm (0.186 in.) in diameter and 5.7 mm (0.225 in.) in length. The Model HEG-1 is in a cylindrical holder with a hexagonal extension made of Type 316L stainless steel and fusion welded. Approximate outer dimensions of the holder are 38.1 mm (1.5 in.) in length, 6.35 mm (0.25 in.) in diameter in the cylindrical section and 9.53 mm (0.375 in.) across the flats of the hexagonal section. Construction shall be in accordance with attached IPL Drawing No. 3906, Sheet 3 of 5, Rev. G.
3. Radioactive Contents - The source described by this certificate is authorized to contain any one of the following radionuclides in the chemical form identified and limited to the activity shown.

Radionuclide	Form	Activity GBq (Ci)
Na-22	NaCl in gold or ceramic	3.7 (0.10)
Co-57	CoO, CoCl <sub>2</sub> or Co(NO <sub>3</sub> ) <sub>2</sub> in ceramic	11.1 (0.30)
Co-58	CoO, CoCl <sub>2</sub> or Co(NO <sub>3</sub> ) <sub>2</sub> in ceramic	11.1 (0.30)
Co-60	CoO, CoCl <sub>2</sub> or Co(NO <sub>3</sub> ) <sub>2</sub> in ceramic or Co pellets	22.2 (0.60)
Ge-68	GeCl <sub>4</sub> in ceramic	1.85 (0.05)
Ba-133	BaSO <sub>4</sub> or BaCl <sub>2</sub> in gold or ceramic	3.7 (0.10)
Cs-137	CsCl, Cs <sub>2</sub> SO <sub>4</sub> or CsNO <sub>3</sub> in ceramic, Al or Au pellets	11.1 (0.30)
Ra-226	RaSO <sub>4</sub> in gold or ceramic	1.85 (0.05)
Cf-252	Oxide in metal or ceramic	0.037 (0.001)
Actinides*	Oxides in gold or ceramic	1.85 (0.05)

\* (Isotopes of Ac, Th, Pa, Np, U, Am, and Cm)

4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations<sup>1</sup> shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.

<sup>1</sup> "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

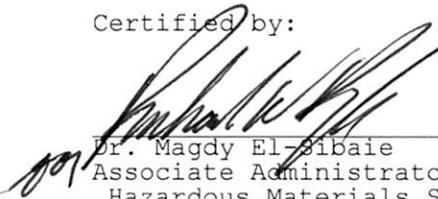
<sup>2</sup> Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

CERTIFICATE USA/0508/S-96, REVISION 4

5. Expiration Date - This certificate expires on March 31, 2020.

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the March 2, 2015 petition submitted by Eckert & Ziegler Isotope Products, Valencia, CA and in consideration of other information on file in this Office.

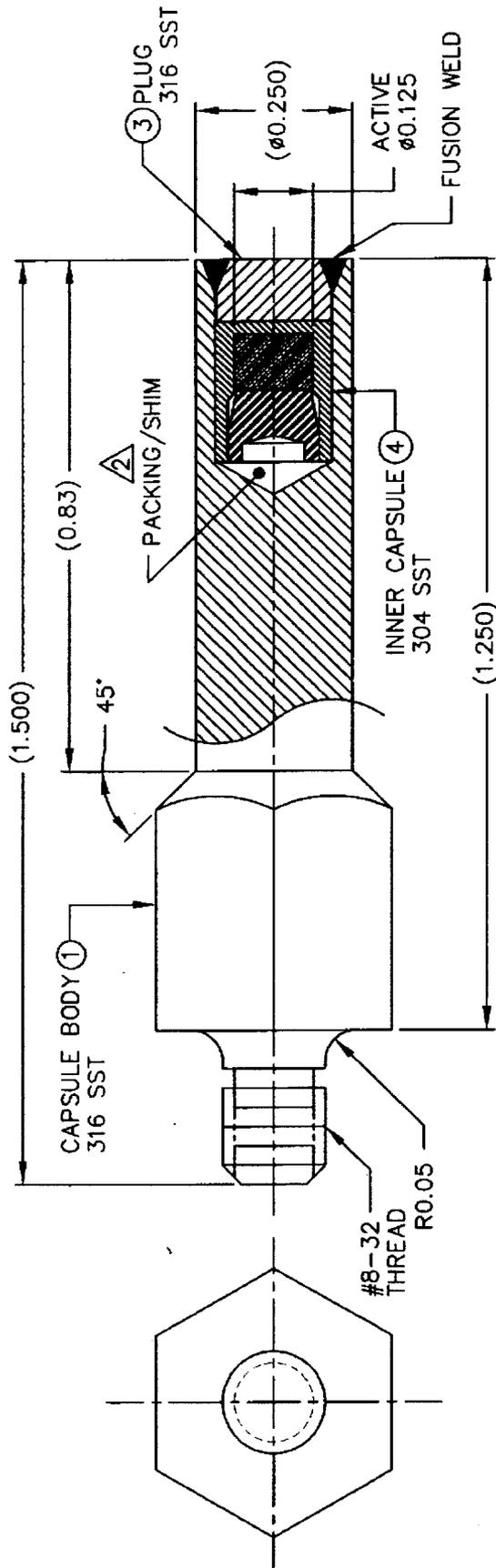
Certified by:

  
\_\_\_\_\_  
Dr. Magdy El-Sibaie  
Associate Administrator for  
Hazardous Materials Safety

**MAR 11 2015**

\_\_\_\_\_  
(DATE)

Revision 4 - Issued to extend the expiration date.



LOGGING, DENSITOMETER SOURCE

MODEL	NUCLIDE	ACTIVITY
HEG-0027	Cs-137	10 mCi
HEG-0067	Cs-137	20 mCi
HEG-0066	Cs-137	55 mCi
HEG-0065	Cs-137	100 mCi
HEG-CUST	Cs-137	CUSTOM

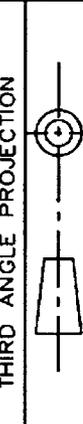
3. SOURCE MUST PASS A RATTLE TEST (PER CUSTOMER REQUEST) AFTER WELDING.  
 2. SHIM AS REQUIRED TO ARREST INNER CAPSULE MOVEMENT.  
 1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING AND PER PROCEDURE PM20-1. FUSION WELD AS REQUIRED.

NOTES: UNLESS OTHERWISE SPECIFIED

A3906 ASSEMBLY

ISOTOPE PRODUCTS  
 LABORATORIES  
 BURBANK, CALIFORNIA 91504

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DESIGN	DRAWING TITLE
TOLERANCES ON		MG/DI	CALIBRATION SOURCE, Cs-137
FRAC-TION	DECIMAL	SCALE	SERIES TITLE
±1/64	±.1	NONE	INDUSTRIAL SOURCES, CUSTOM
X	.01	SIZE	CAGE CODE
XX	.002	A	32993
XXX	±.5	THIRD ANGLE PROJECTION	REVISION
ANGLE			G



DRAWING NUMBER	DRAWING NUMBER	SHEET
3906	3906	3 OF 5



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East Building, PHH-23  
1200 New Jersey Avenue SE  
Washington, D.C. 20590

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**CERTIFICATE NUMBER:** USA/0508/S-96, Revision 4

**ORIGINAL REGISTRANT(S):**

Ms. Frida Tan  
Regulatory Affairs Manager  
Eckert & Ziegler Isotope Products  
24937 Avenue Tibbitts  
Valencia, 91355  
USA

**REGISTERED USER(S):**

Ms. Elizabeth Foltz  
Manager, Global Radiation and Explosives Safety  
Halliburton  
3000 North Sam Houston Parkway, East  
Houston, 77032  
USA

Mr. Steve Woods  
Global Radiation and Explosives Safety  
Halliburton  
1015 W Bois D Arc Ave  
Duncan, OK 73536

Mr. Neil Walters  
Global Radiation and Explosives Safety  
Halliburton  
3300 N. Sam Houston Parkway East  
Houston, TX 77032

Ms. Jill Mead  
Global RSO  
Halliburton  
3000 North Sam Houston Parkway, East  
Houston, 77032  
USA