



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE USA/0043/S-96, REVISION 14

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

This certifies that the sources described have been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive material.

1. Source Identification - Monsanto Research Corporation Model 2720 Series.
2. Source Description - The sources described by this certificate are cylindrical double encapsulations constructed of stainless steel with welded closures and with the dimensions indicated in the following table:

Model Number	Outside Diameter mm (inches)	Length mm (inches)
2721 A, B, or C	12.7 (0.50)	12.7 (0.50)
2722 A, B, or C	12.7 (0.50)	17.8 (0.70)
2723 A, B, or C	19.1 (0.75)	22.1 (0.87)
2724 A, B, or C	25.4 (1.00)	28.4 (1.12)
2725 A, B, or C	25.4 (1.00)	38.1 (1.50)
2726 A, B, or C	25.4 (1.00)	50.8 (2.00)
2727 A, B, or C	38.1 (1.50)	63.5 (2.50)
2728 A, B, or C	38.1 (1.50)	88.9 (3.50)
2729 C	38.1 (1.50)	53.3 (2.10)

The sources authorized by this certificate are only those that have been manufactured prior to January 1, 1985 in accordance with Monsanto Research Corporation Drawing Numbers: B2721-AA00, B2722-AA00, B2723-AA00, B2724-AA00, B2725-AA00, B2726-AA00, B2727-AA00, B2728-AA00, A2721-BA00, A2722-BA00, A2723-BA00, A2724-BA00, A2725-BA00, A2726-BA00, A2727-BA00, A2728-BA00, C2721-CA00, C2722-CA00, C2723-CA00, C2724-CA00, C2725-CA00, C2726-CA00, C2727-CA00, C2728-CA00, or C2729-CA00. Monsanto Research Corporation Drawing Numbers C2728-CA00 and C2729-CA00 are attached as examples.

¹ "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.

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

CERTIFICATE USA/0043/S-96, REVISION 14

3. Radioactive Contents - These sources consist of Americium-241 or Plutonium-238 as oxide in powder form mixed with a neutron producing target material (Be, B, Li, F, or C) in powder form. The maximum activity of each is as indicated in the following table:

Model Number	Maximum TBq (Ci) Content	Model Number	Maximum TBq (Ci) Content
2721 A	0.01 (0.3)	2726 B	0.59 (16)
2722 A	0.04 (1)	2727 B	1.74 (47)
2723 A	0.11 (3)	2728 B	2.78 (75)
2724 A	0.19 (5)	2721 C	0.01 (0.3)
2725 A	0.31 (8.5)	2722 C	0.05 (1.3)
2726 A	0.44 (12)	2723 C	0.09 (2.35)
2727 A	0.22 (6)	2724 C	0.21 (5.6)
2728 A	0.37 (10)	2725 C	0.42 (11.4)
2721 B	0.01 (0.4)	2726 C	0.65 (17.7)
2722 B	0.05 (1.4)	2727 C	1.78 (48)
2723 B	0.11 (2.9)	2728 C	2.89 (78)
2724 B	0.22 (6)	2729 C	1.28 (34.7)
2725 B	0.37 (10)		

4. Quality Assurance - Records of Quality Assurance activities required by paragraph 310 of the IAEA regulations¹ 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.
5. Expiration Date - This certificate expires on November 30, 2021.

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 November 09, 2016 petition submitted by J.L. Shepherd & Associates, San Fernando, CA, and in consideration of other information on file in this Office.

Certified by:



William Schoonover
Acting Associate Administrator for Hazardous Materials Safety

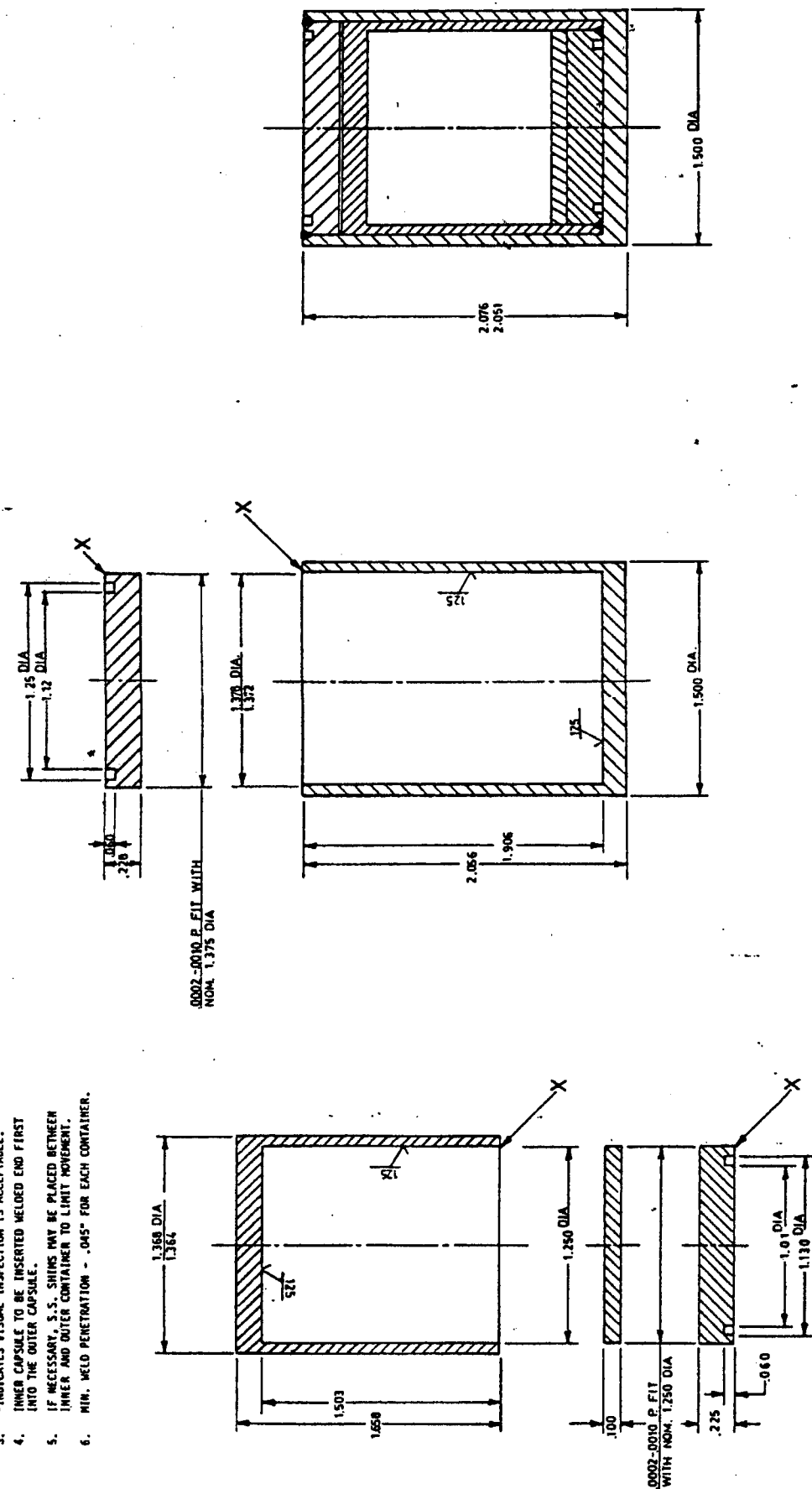
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(DATE)

Revision 14 - Issued to extend the expiration date.

REV.	DESCRIPTION	DATE	APPROVAL

- NOTES:
- UNLESS OTHERWISE SPECIFIED:
BREAK OUTSIDE CORNERS .010 - .020"
RADIUS INSIDE CORNERS .010
 - ALL CORNERS DESIGNATED WITH AN X SHALL BE LEFT SHARP, NO BURRS.
 - *INDICATES VISUAL INSPECTION IS ACCEPTABLE.
 - INNER CAPSULE TO BE INSERTED WELDED END FIRST INTO THE OUTER CAPSULE.
 - IF NECESSARY, S.S. SHIMS MAY BE PLACED BETWEEN INNER AND OUTER CONTAINER TO LIMIT MOVEMENT.
 - MIN. WELD PENETRATION - .045" FOR EACH CONTAINER.



OUTER CONTAINER

INNER CONTAINER

ASSEMBLY

DIMENSIONS ARE IN INCHES O MILLIMETERS	
MS	2.00
QA	2.91
MFG	1/4
DE	2.00
BRN	HAM
DRN	3.75

UNLESS OTHERWISE SPECIFIED
 TOLERANCES:
 DECIMALS: .XX = .01
 .XXX = .005
 .XXXX = .001
 ALL SURFACES $\sqrt{32}$
 MATERIAL: 304 STAINLESS STEEL

MONSANTO RESEARCH CORPORATION
 BATTON LABORATORY
 BATTON, OHIO

NEUTRON SOURCE
 CAPSULE MODEL 2729-C

REV. NO. C 2729-CA00 0



U.S. Department
of Transportation

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

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CERTIFICATE NUMBER: USA/0043/S-96, Revision 14

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